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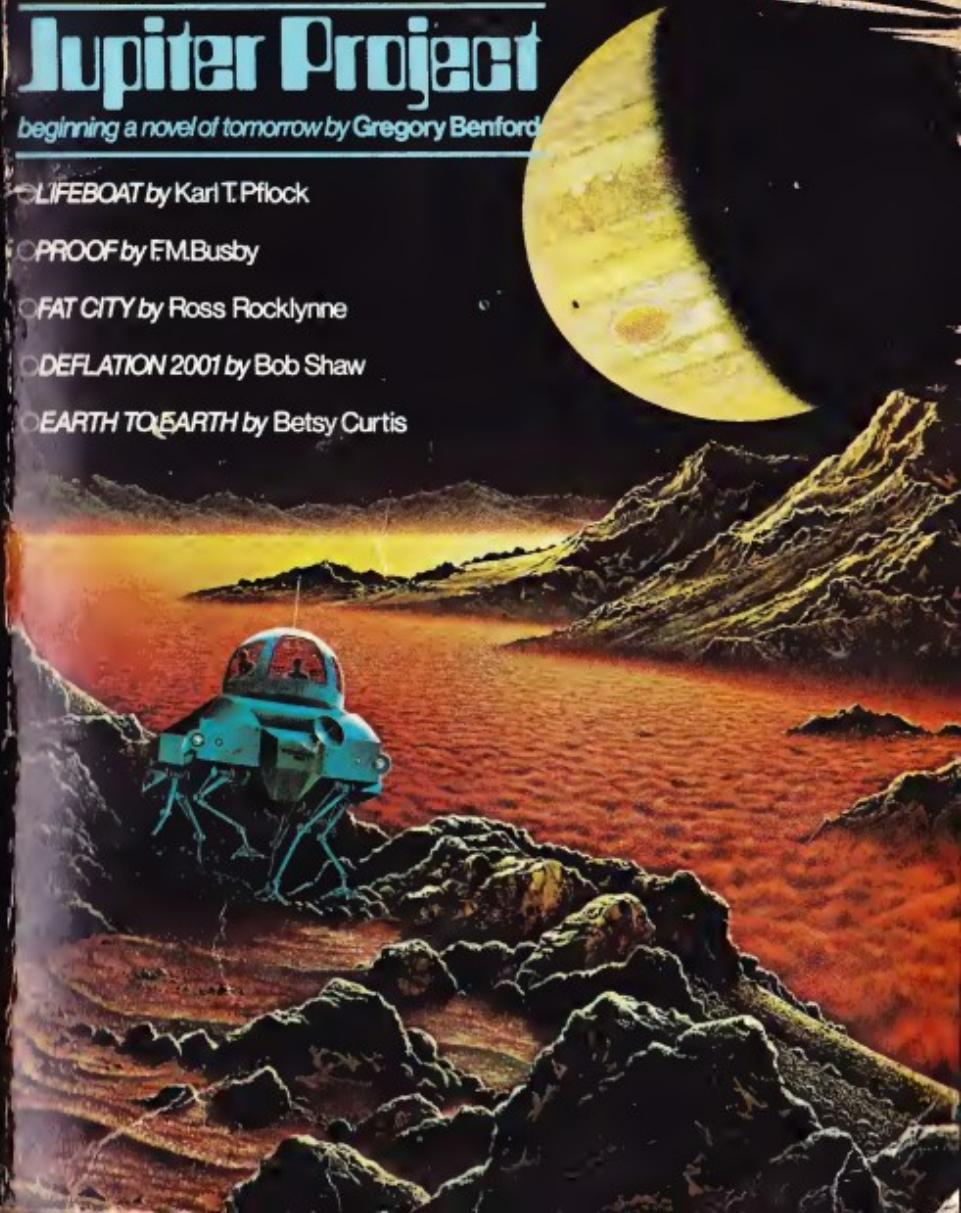
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SEPTEMBER, 1972

Vol. 46, No. 3

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fascinating new novel of tomorrow**

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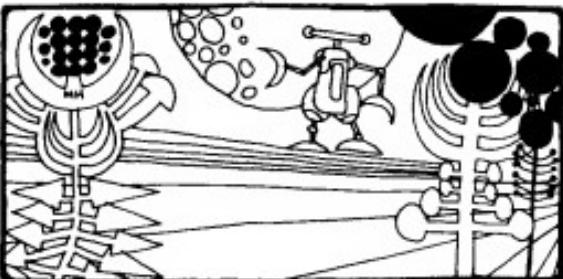
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**TED
WHITE**

EDITORIAL



LAST ISSUE and in the June issue of our companion magazine, *FANTASTIC*, I remarked upon some of the things which have been happening in recent years to the World Science Fiction Convention and I suggested several alternative paths which the Worldcon may take in the years to come.

Naturally it's too early to start getting responses to my editorial last issue (as I write this it is not yet on sale), but there have been some comments on the earlier editorial in *FANTASTIC*, several of which are worth noting here.

Shortly after the June *FANTASTIC* went on sale, an acquaintance in New York phoned me to pass on the information that a recent Worldcon chairman was talking about suing me over the editorial in that magazine. "Good grief," I said. "Why?" I immediately re-read the editorial in question, looking for possible inferences which I had not intended (the individual in question was not named in the editorial, but I wasn't positive he hadn't been alluded to somehow). I still found no grounds for a suit—nor indeed any justification for such a remarkable action. Soon thereafter, when the subject again came up—this time with friends at the Science Fiction Writers of America Nebula Awards Banquet—I was told, "Oh, he says he gives each issue of your magazines to his lawyer to see if there's

anything in them he can sue you about."

I find this totally incredible—*amazing*, in fact.

I was aware when I wrote that pair of editorials that they would not be universally admired—that some people who have been connected with Worldcons in the past might not appreciate my dragging some facts (privately admitted by everyone who has worked on such conventions) out into the light of public print. But it was not my desire to attack any specific individuals (and still is not—which is why I have named no names in either those editorials or the foregoing), whatever their sins might be. My objective was to identify certain trends which I felt deserved recognition and to call attention to the potential dangers facing Worldcons in the years to come. The World Science Fiction Convention is science fiction's oldest and proudest tradition: it is our public face to the world at large. Ever since Sam Moskowitz launched the first Worldcon in 1939, these conventions have grown in stature—and in size. As such, they are a legitimate subject for discussion in the pages of any sf magazine. The fact that I was myself a co-chairman of one simply gives me added perspective with which to discuss them.

In addition to the response of the fan who wants to sue me—apparently on any

prectxt he can find—were several more sensible ones, including a letter from Mike Glicksohn, who is on the committee of the 1973 Worldcon in Toronto. He cautions, "I must say that I'm writing strictly as a fan, as a reader of FANTASTIC and AMAZING, and as an acquaintance of yours. I'm not representing the committee, and you may be getting some sort of official letter, I don't know. You may certainly use any information I give here, but it is from one fan to another, that's all." With that disclaimer stated, I'd like to quote portions of his letter here; they shed added light on some of the problems involved in setting up a Worldcon these days.

"Dear Ted,

"The new FANTASTIC came out here today so I was finally able to read what all the fuss was about. I was quite surprised to find such a calm editorial, since hearsay evidence and rumours of lawsuits had prepared me for a real fire-and-brimstone approach. But still I'd like to discuss a few points.

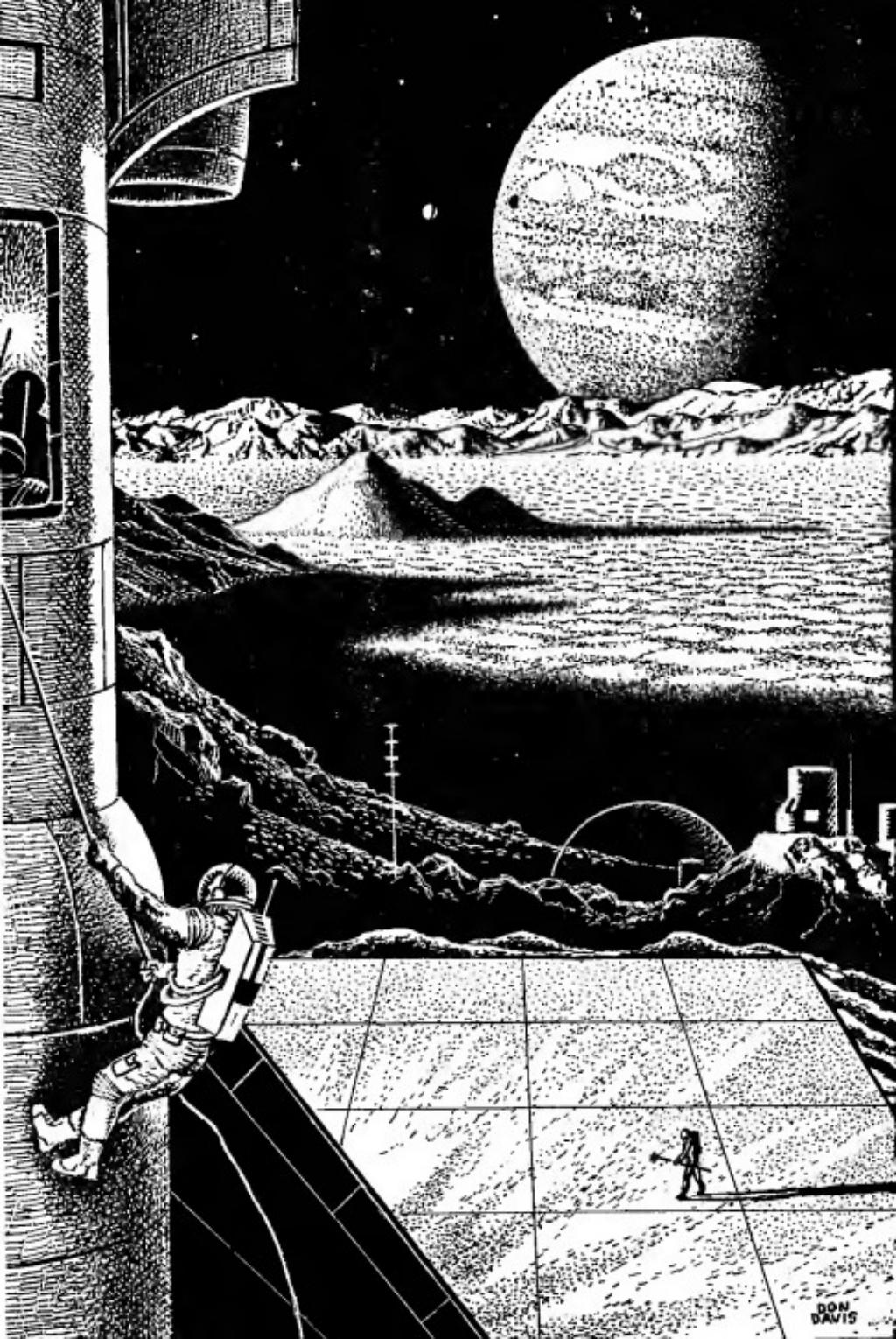
"Basically I cannot disagree with your main points. I do, though, think there are several things about our particular bid that you should be aware of. Your point about convention space is of course correct (has any recent convention committee claimed they were paying exorbitant rates for space? I can't recall it myself) but there's a follow-up point that you seem to miss. Our hotel (the only one in the city with the facilities we needed when we decided on the bid) was willing to give us free convention space but because of that we weren't able to get convention rates on rooms. (In fact, when I asked the convention manager about special rates, he stated flatly that the Royal York didn't have them.) In most hotels, it seems to be one or the other, free space or reduced rates. And considering that the

function space at the Royal York runs about \$4000 a day to rent, I think I can tell what a committee offered that choice would decide! So I think it's a bit unfair to say that concoms should get their space free and still bargain for better rates for the attendees.

"Much set-up at the Royal York will be free, but not all. For example, we have to pay a big chunk to have two or three hotel employees on the floor during the all-night movie showings. They won't do anything, but regulations say they have to be there. (And as a matter of fact, it will cost us a lot to rent the hotel's movie facilities, which do not come free with the space. Per night, for the facilities, projectionist and sound man plus hotel personnel, it's going to cost us \$500. And that does not include the rental of the films themselves.)

"The matter of left-over profits is certainly a thorny one. As you say, many committee members lose money by working on the con and I see nothing morally wrong with a recompense for this. In all honesty, I have no idea as to what profits recent Worldcons have made, but I don't see us making any fortunes. Our supporting membership has been \$3.00 and will be until December when it will rise to \$4.00 (and supporting members will be able to convert at the door by paying the additional \$3.00 to bring their memberships up to the \$7.00 we'll be charging regular members after December). For that supporting fee we have plans to give members a couple of bonuses in addition to the regular program book as long as funds allow (this is a bonus for supporting members only, to give them something extra to make up for not attending). We're also hoping to put out a special mailing for all members which will be a large and previously unknown expense. Add these to normal convention expenses and I doubt that

(Continued on page 106)



DON
DAVIS

"The solar system is old hat," a prominent sf writer remarked recently; "we've written it to death, and what we've overlooked NASA is uncovering." Not so—as Greg Benford conclusively demonstrates with this novel. "Jupiter Project" was written as a so-called "juvenile" sf novel, in the vein of Heinlein's juveniles, like Farmer in the Sky—a slice of life in the everyday world of a space-station orbiting the planet Jupiter—and, in the process, covers just about all we know about Jupiter and its natural satellites, offering (almost incidentally) an update on Heinlein's proposal for farming Ganymede . . .

JUPITER PROJECT

GREGORY BENFORD

(First of Two Parts)

ILLUSTRATED BY DON DAVIS

CHAPTER 1

LOOKING BACK over all that's happened out here, it's kind of hard to decide just where I should begin. What I mean is, I could start right out describing how I made the discovery that ultimately saved the Can. Or maybe I should backtrack a bit and tell you what the Can was being saved from. But that would leave out so much that has to do with *why* things happened the way they did, and if I'm going to tell you about that, I have to backtrack some more. I thought about just starting at the point that Dad told me about my chances for staying out here—here, in an orbit around Jupiter, in the Can, where I just sort of *assumed* I'd be staying up till then. But it seems to me that my real starting place is earlier than that same "day"—in the squash court.

I was losing, as usual.

Not, you understand, that I was going to give up. My father always says a Bowles isn't really a Bowles if he has the word "quit" in his vocabulary, and that's the way I've been reared. So I wasn't going to relax and take it easy and let Ishi Moto beat me at squash—not for a moment.

But, as I said, I was losing.

Ishi had just served the ball as hard as he could. I watched it carom off the wall of the tube and slam into the forecourt. The squash court is a cylinder, with its top the forecourt wall and the bottom the backcourt—only there isn't any real top and bottom, or up and down, because there isn't any gravity. The object is to bounce the rubber ball off both ends of the cylin-

der—forecourt and backcourt—before your opponent can snag the ball with his racket.

I gathered my legs under me, trying to judge how fast that ball was moving and where I could intercept it. But I knew it was probably hopeless—that ball was traveling *fast*—and if I missed it Ishi would have me down, 18 to 12.

I clenched my racket and jumped. The hard thing to remember, even after you've been out in space for years, is that in zero gravity just a little push will get you where you're going in a hurry. Sure, your *mind* knows it's true, but your body has to learn it all over again if you've been working in a gee-field for a while.

So I overshot.

Too anxious, I guess. I jumped from one side of the tube, about halfway up the cylinder. An instant later I was coasting across, watching that squash ball bouncing back at me from the forecourt, one eye on the ball and the other on the tube wall I was approaching.

It wasn't that the ball was too far away, at all. I could reach it with the racket. But by the time it was within range of the mighty Bowles right arm, I would have to be halfway through my somersault. That tube wall was coming up fast, remember: I had to turn over in midair and get my legs out in front to brake my velocity when I ploughed into it.

I *should* have been able to swat that ball and then flip with plenty of time to spare. If I'd judged it right. Only I hadn't.

"Ah!" I cried, and Ishi laughed at the same time.

Automatically I stretched out my arms to the side and rotated them, to spin me head over heels. Partway into the somersault I had an idea—or maybe just a reflex. Anyway, I flailed around awkwardly with my racket, aiming at a spot behind my back where I knew the ball must be passing.

Thunk! The ball hit the plastic rim of my racket. I finished up my flip and cocked my head around just in time to see the ball drift lazily back into the forecourt, taking its own sweet time.

Then my boots hit the wall and I cushioned to a stop against it. Ishi yelled, started to jump and then thought better of it. The ball bounced softly off the red forecourt wall and came off at an angle. A second later it hit the tube wall and became a dead ball by the rules of the game.

"Tsk," I said mildly. "It looks like you don't get that point after all."

"Luck!" Ishi said.

"Right you are, my good man," I said with a grandiose bow and a smile. "Luck is my specialty. Hours by appointment."

"That was a slick maneuver, anyway," Ishi said as he pushed off the backcourt wall and glided down to the forecourt. He did a partial repel off the red forecourt and snared the ball, all in one deft movement, demonstrating why, though I might pick up a point here and there, I wasn't going to win this game.

"You keep making plays like that, John, and you'll be at the top of the squash roster," Ishi said.

"Thanks."

Ishi is Japanese, invariably polite, and the best sport on the roster. But

he does a lot of no-gee work every day. If I was ever going to knock him out of the Number One slot I'd have to get transferred to a no-gee detail myself, or practice five hours a day. Or, more likely, both.

"Your serve," Ishi said, tossing the ball to me. I drifted to the back of the cylinder and braked to a stop. Ishi crouched against the wall of the tube midway between the two end walls.

I brought my racket around and served the ball in a diagonal away from Ishi. It hit the forecourt wall with a spock and seemed to be traveling pretty fast to me. Ishi pushed off, taking all the time in the world, and swatted the little black ball as it went by him. He kept on gliding across the tube to the other wall, shielding the ball from me as it went back into the forecourt so I couldn't tell just which way it would bounce.

I pushed off to my left, opposite to the way Ishi was going. The ball came flying out of the forecourt, struck the tube wall and twisted off to the side. Ishi had put spin on it that I hadn't seen.

I was moving one way and the ball, suddenly, was doing just the opposite, and closing with me all the while. I writhed around, trying to reach the tube wall and get another push, but I wasn't close enough. I made a stab with my racket, but the ball sailed past and thonked hollowly against the blue backcourt wall.

"I believe that makes—" Ishi said.

"Nineteen," I finished.

The next serve was Ishi's and I proved once more that we Bowles are slow learners: Ishi used his same serve,

but placed it about a foot further away than usual, so my hit-it-on-the-somersault trick didn't work that time.

I served again, and lost.

Ishi served, we had a respectable rally that left me winded, and Ishi outfoxed me with a little dink shot to take the game, 21 to 12.

"Better this time, John, better," Ishi said.

"You're lucky you don't have to give me artificial respiration, after that rally," I said. "You had me bouncing off the walls like a pingpong ball."

"Now that you mention it," Ishi said with only the faintest suggestion of a smile, "Medical Division has asked me to try to improve your muscle tone. I was only acting in your own best interests."

"Uh. Have a bite, after?"

"Fine."

Ishi turned a small lever and opened a curved panel in the tube wall. I followed him in and closed the panel after us. We made our way along a short tube, using every other handhold, and came to another hatch. The controls on this one were more complex because it had to seal the squash court off in case of a pressure drop. We went through it into a slightly larger tube running at right angles to the first one. It was big enough for two-way traffic, but we didn't meet anybody in the two hundred yards to the "top" of the center axis.

The squash court, you see, is on the axis of my home. The Jovian Astronautical-Biological Orbital Laboratory, JABOL. Quite a mouth full. We don't call it that, of course—usually it's just the Can.

That's how it looks: JABOL is a big, hollow cylindrical shell that orbits the planet Jupiter every two and a half days. It looks like somebody had taken a dozen of those wheel-shaped space stations that orbit Earth and stacked them on top of each other. From the side it looks like a rotating tin can with thick walls and no lid or bottom. Above it, you can look straight through and see stars, except for a thin rod down the axis that's held in place by spokes that run in from the big cylinder. That's where Ishi and I were playing squash. That central rod is really a hollow cylinder. It's suspended by gimbals and doesn't rotate with the rest of the Can. That means it doesn't have any centrifugal "gravity"—it's in free fall condition.

Don't get the idea that JABOL set the central axis just so for the benefit of squash players—it's all rigged for the Far Eye, our observatory. Ishi and Zak and I and some others had to scrounge the tubing for our court and wangle permission to build it by ourselves, on our own time. It's ours. (Legally, of course, some bureaucrat in the Association for the Advancement of Science back on Earth has supervision—but let him try and use it.)

Ishi and I stowed our rackets away in a wall locker and ducked through the rotating collar at the gimbal joint, on our way to the 'freshers. I felt the faint tug of centrifugal "gravity" as soon as we were through the collar, and had to slow down to avoid bumping into Ishi. He's more cautious than I am—a good thing to be—and slows down more when he's traveling radially in the Can.

We were in a tube that ran all the way out to the rim of the Laboratory, but even if you were especially dumb or especially careless you couldn't contrive to fall the whole way and end up strawberry jam. There are zig-zagging buffers to stop you from falling in a straight line.

We went down this tube, meeting a few maintenance personnel on the way, and reached the men's lockers, off on a side corridor. I stripped off my shorts and T-shirt and popped into a 'fresher, going over the squash game in my head and trying to see what I'd learned, if anything. The alternating showers of ionized water made me perk up at once and I came out of the stall feeling like a new John Bowles.

Ishi, as usual, was a little faster. I came out of the lockers zipping up a shirt, to find him carefully entering the result of my challenge on the tote-board of the roster.

"Why don't you try for Yuri next?" Ishi said, not looking up from the writing slate.

I checked the standings. I was still number five. "Hey!" I said. "Yuri has jumped from seventh to second."

"Quite so."

"I thought the rules said a player can't challenge anyone more than four spaces above him."

"That is not a rule, only a convention. It appears that Yuri has become ambitious." Ishi smiled slowly.

"That's nothing new," I said, thinking. "Yuri's only been on the roster a few weeks, but anything he does, he does in a big way."

"He must have practiced quite a bit."

"Sure, he beat Katz out for the #2

slot. But then, Katz is a technician in Surveillance Division and hasn't had much time lately to keep up. His game is probably off." I said all this with a sinking feeling, because the news that Yuri was a really first-class squash player meant my dream of someday reaching the top of the roster was even more unlikely.

"Ah well," I said. "Let's go drown my sorrows."

The recreation room was off another spoke from the axis of the Can, but easy to reach along one of the little connecting tubes. By now we were far enough out from the axis to feel a respectable gravity; instead of using the handholds, we walked along the tube at a low, coasting gait, heads in toward the center of the Can and feet toward the rim.

Ishi made a milk shake for himself while I slapped together a sandwich and poured coffee. The fold-out tables in the rec room were mostly filled, but I saw Jenny Fleming and Zak Palonski at a large table in the corner.

"Can we join the great debate?" I asked Jenny. She smiled and moved over to give me room, straightening the collar on her orange blouse and fiddling with her braids.

"My, you do look a little peaked, John," Zak said. "I trust you trounced Ishi?" Zak has unruly hair and is a touch fat. He was rapidly finishing off a second plate of goulash.

"The vanquished have no memory,' my son," I said, quoting a line of his own poetry to him.

"He played well, but I edged him out at the end," Ishi said, sitting down.

"The last game was a cliff-hanger,"

I said. "A breathtakingly narrow 21 to 12."

"Why didn't you challenge me?" Jenny said brightly. "I was third, last I looked, and I'm out of practice."

"Why?" Zak said. "Working too hard?"

"My shuttle needs some repair," Jenny said. "I've been overhauling it with the help of some people in maintenance."

"Why should that take all your time?" I said.

"It is a long task," Ishi said, "and it must be done as quickly as possible. There are only two shuttles assigned to satellite maintenance. That is the minimum number possible under the safety regulations, since there must always be a backup shuttle in case the first fails while on a mission."

"Yours is still operating, Ishi?" Zak said.

"Yes. I have not been out, though. There have been no malfunctions among the data satellites while Jenny has had the *Ballerina* in the shop."

"*Ballerina*, is it?" I said. "I thought you'd named her *Winged Victory*."

"After that meteorite damage last month, I'm surprised you didn't make it *Victory Winged*," Zak said.

Jenny wrinkled her nose at him and turned to me. "I like *Ballerina* better, and since I was giving her a new coat of paint—"

"Fine," I said. "Be sure to change the entry in the Lab log, or twenty years from now a little man will come around and ask you to cough up for a misplaced orbital shuttle."

"I know enough to do *that*," Jenny said. She straightened her braids again.

I didn't have anything to say. I had just remembered the sandwich I made, and dug in. The bread wasn't made from wheat, of course—a sort of half-breed seaweed grows better in low gee hydroponics tanks, and after nine years I've almost convinced myself I like the seaweed better. Almost.

Zak launched himself into a monologue about a poem he was writing, using terms I couldn't follow. Zak is the local Resident Character, junior grade: he's short, redhead, and talks faster than most people can think. Faster than *he* can think, sometimes.

"Hey, Zak," I said through a mouthful of sandwich, "have you thought about sending those poems back to Earth? You know—to build up a following?"

"Ah, sir," he said, pointing a finger at me. "You reveal your abysmal ignorance of literary economics. Poetry, my friend, is unprofitable. It's not worth the price of a 'gram to tightbeam it to Earth."

"Ummm," Jenny said, "that doesn't sound like the Zak I know. Why write poetry if there's no percentage in it?"

Zak looked shocked, and he was almost a good enough actor to be convincing. "Mademoiselle," he said, "underneath this simple work shirt beats the heart of an artist. You—"

"Your heart is on the left hand side," Ishi said.

"Oh. Yes. Jenny, you malign—"

"Spare us your sensitivity," I said. "Anyway, Ishi, the human heart is in the middle of the chest. It only sounds like it's beating on the left side."

Jenny leaned across the table—which wasn't hard, considering how small

everything is in the rec room—and stared Zak in the eye. "Okay, Zak, I'll accept the assumption that you have non-larcenous impulses, despite evidence to the contrary. But I've seen you scribbling away in a notebook, and there has got to be money in it somewhere. Fess up."

"Oh, you mean my diary," said Zak. "Diary?" Even Ishi was surprised.

"Sure. I've been keeping one ever since I got here, seven years ago." Zak looked around at us, surprised. "You mean you three don't have diaries?"

We all shook our heads. "Why bother?" said Jenny.

"Thou art innocent of the profit motive? Well," Zak said, shaking his head, "I hope you children have someone around to care for you when you get back to Earth."

"What profit is there in a diary?" Ishi said.

"Think about it," Zak said, running his finger absent-mindedly around the inside of his milkshake glass and then licking it. "Here we are, four hundred million miles from Earth, orbiting the biggest planet in the system. The Lab is the farthest outpost of mankind. Don't you think people back on Earth will read an account of life out here, written by—"

"A brilliant young poet?" finished Jenny.

Zak smiled. "Well, I won't say that. But you never know what a publisher will say in his advertising . . ."

We all laughed and I finished my coffee. "Say, Zak," I said, "have you managed to tear yourself away from your diary to write that script for the

skit you're putting on? Deadline's coming up."

"Sure. Almost finished. I'm wondering if there are enough of us to fill all the roles, though."

"Why not expand the cast?" Jenny said.

"Count me out," I said. "I'm playing a guitar solo."

"Spoilsport—say, here's someone you can conscript now! Yuri!"

I turned, and Yuri Sagdaeff was sitting down next to me.

CHAPTER 2

YURI IS BURLY, with close-cropped black hair. He has a square jaw and a squat, flat nose; squint your eyes a bit and he can look like a partially completed design for a tank.

The tank said to me, "What's all the gab about?"

"Are you doing anything in the next amateur hour?" Jenny asked him.

"Nope. I don't plan to."

"I've got a part in my play that would fit you admirably, Yuri," Zak said.

"Like I said, I don't plan to. I haven't got the time," Yuri said, arranging the food he'd brought with him. He looked at me. "I don't believe you have the time either, Bowles. Not if you're going to ever get higher on the squash roster."

"I'll struggle along somehow," I said.

"You seem suddenly quite interested in squash," Ishi said. His face was a model of oriental inscrutability.

"I am," Yuri said, taking a mouthful of peas. "I just didn't get around to it before now."

"You were big on chess two months ago, weren't you, Yuri?" Jenny said.

"Sure."

"I didn't know that," Zak said. "I'm a bit rusty, myself. Care to try a game, Yuri?"

"Nope. I don't play chess any more."

"What? So soon?" Jenny said.

"You are a man of sudden interests," Ishi said.

"Come on, Yuri, you needn't be afraid of losing to me," Zak said.

"It's not the losing. I'm just through with chess."

"Umm," Jenny said. "Did you finally get out of that trap Mr. Jablons had you in?"

Yuri smiled slightly. "Of course. And I checkmated him in three more moves. That gave me the championship of the Lab."

"Very smart, Yuri," Zak said. "Quit while the competition is still looking at your heels."

"You've got me wrong," Yuri said, waving a hand, "I just get bored with the same old thing, is all. Besides, I've got too much work to do. I can't keep up with everything."

"Your group is sending down more probes?" Ishi said.

Yuri nodded earnestly, glad to get the attention off himself. "We're trying to get all the new data we can, in time to be sent back on the *Argosy*."

That's what we were all working toward: the arrival of the *Argosy*, the mammoth ion rocket driven by nuclear power, that was our only link with Earth, outside of laser beam.

The economics of interplanetary travel are inescapable. It costs a fortune to push a pound of payload from Earth to Jupiter, and even more to put it into orbit near the Can once it arrives. There are many factors: speeding up

or slowing down to compensate for the fact that the two planets aren't traveling at the same velocity; maneuvering to orbit at just the right distance from Jupiter, at the right speed; but most of all, the unavoidable fact that every inch of the way the *Argosy* must struggle up out of the gravitational "hole" that the sun makes.

The whole process takes seven months and the *Argosy*'s sister ship *Rambler* follows at the next economical conjunction of Earth and Jupiter, thirteen months later. That means we get a visit every thirteen months. It seems pretty seldom to us, but ISA—the International Space Administration—counts its pennies. We aren't likely to get more.

"Doesn't that put the Atmospheric Studies group ahead of schedule?" Jenny said.

"A little," Yuri admitted. "The series we're planning will just about use up all our liquid oxygen reserves."

"That's not very smart," Zak said.

"Not smart to get no results, either," Yuri said.

"What if some emergency turns up?" Jenny said. "You won't have any high-performance chemical fuel left."

"Wait a minute," I said. "I don't get it. Why—"

"Yuri's talking about those boosters he slaps on the ion rockets that get our probes down into the Jovian atmosphere," Zak said. "You need the boosters when those bathyscaphes start fighting the winds, down there in the clouds."

"Look, junior," Yuri said to Zak, rubbing in the fact that he's six months older than any of us, "the day Atmos-

pheric Studies sets a package down on the surface of Jupiter, that's the day this whole expedition pays off. Anything we want to use to get there is okay."

"What if you guys run over your budget?" Ishi said.

"Budget? Well, we'll get an increase."

"Not likely, grandfather," Zak said. "The news stats I see from Earth say ISA is grumbling already."

"You don't believe that garbage, do you?" Yuri said.

"Who knows?" Zak shrugged. "I'm not a politician—haven't got a sunny smile—so I just read the news."

"Listen, nobody's going to cut the money for this Lab. We're too important."

I caught sight of a wall clock. It was 1500 hours, ship's time. "Hey!" I said. "My watch is coming up."

"Mine, too," Zak said, pushing his chair back.

"Let's hoof it," I said, and we left the rec room.

Zak and I took one of the main radial tubes and went down it toward the rim of the Can. I knew this particular one pretty well; I'd helped assemble it out of leftover fuel storage drums a few years ago. That's the interesting thing about the Can—every bit of scrap eventually gets tacked on to the main structure and serves some use. That means there's always something for a guy who's handy with his hands, like me, to do.

We came to a cross-tube with an orange CAUTION flag painted on, which signaled that we were in the

laboratory part of the Can. We dropped down to it and walked.

"Say, your watch isn't the same time as mine," I said.

"I know. I just wanted to get away from that chump, Yuri."

"Haven't you ever known an operator before?"

"How could I? There aren't more than thirty kids our age in the Can."

"Yuri is a type, that's all."

"A type I could do without. From what I heard on the trans-Jupiter grapevine, he waited until Mr. Jablons had a heavy work schedule in the low temperature lab. Then Yuri challenged him for the chess championship."

"So Mr. Jablons didn't have free time to think over the game between sessions? Ummm."

We were walking around to the section of the Can near Monitoring. People passed in the tube, most of them intent upon their work or on their way off duty. Working hours are staggered almost all the way around the clock, to keep electrical power demands fairly constant and avoid overcrowding in the recreation areas. Still, in the "evening" hours the tubeway lights are dimmed. It has something to do with the human need for a regular cycle in the environment, but I don't understand the process.

"You don't think he's right about ISA?" I said.

Zak furrowed his brow. "I *hope* he is. My dad, you know, plays bridge with Commander Aarons. They get along fairly well; dad says they went to college together, or something. Anyway, dad has been dropping little hints lately that Earth is giving the Com-

mander static about replacement parts."

"Doesn't sound good."

"It worries dad, too. We're stuck out here, you know, and it's been nine years. With no really solid results."

"I've learned a lot. I can put together most of the important parts of the Can with a little help. I can park and maneuver shuttles and skimmers and one-man bugs."

"Sure. We can all do that, only maybe not as well as you can. But this is a scientific expedition, and *results* are all that count."

"Look, Yuri's just spouting a line. He gets it from his father."

"Yeah, maybe you're right," Zak admitted, digging his hands into his pockets. "Politics inhibits the reasoning processes."

We reached the bright yellow door of an elevator. "Well, I'm going to hit the books," Zak said. (We don't use books of course—too bulky—but a fax projector looks much the same.) "Don't get eyestrain from watching those screens."

I stepped into the elevator and took it down five levels. When I stepped out gravity was appreciably greater. I could also feel a slight force pushing me away from a straight line path when I walked. That's the "spin force" we all had to adapt to when the Can was set rotating.

The levels of the Can are cylinders with a common axis, each cylinder fitted inside the next. If you're facing along the rim of the cylinder, the floor curves up in front and behind you. It looks like you're always walking up a hill. You're not, of course, because

"gravity"—the centrifugal force—is perpendicular to the floor everywhere. It never *feels* like you're walking uphill, but it looks that way. On the other hand, to the right and left the floor stays flat. You can see clear to the top and bottom of the can: two hundred yards. That's only in the main corridors, though. Usually the view is blocked by doorways or partitions.

Everything is brightly painted. After all, who wants to look at gray prefab paneling all day? The hallway outside Monitoring Division is a swirl of yellows and greens, spiraling around the doors and splashing out onto the deck. All this gives the impression of depth and variety; halls look longer and it's easier for the human eye to locate things, from the contrast. The ship psychologist says it's good for us, just like the Ganymede vacations.

I stepped into the small alcove just inside the doorway of Monitoring. There was nobody there, so I dimmed the lights and went through a side door into the Main Station Room—only nobody calls it that, naturally; it's locally known as the Hole.

An apt name, too, because it's utterly, completely, dark. I stood for a moment and let my eyes adjust, not daring to move. After a while I could see the dim red lamps spaced evenly between the booths. My booth was the fifth down and I moved toward it at a slow shuffle, being careful not to bump into anything.

The Hole isn't very big—no larger than a decent-sized living room—but it's crammed with equipment. I could hear someone murmuring from around a corner in the aisle; that meant the

required minimum of one man on duty was satisfied. But the voice was just a drone, relaying some numbers to the bridge, so there wasn't anything urgent.

I slipped into my booth and my hands fitted automatically into the control slots. I tried a few practice commands: a view of Europa, Jupiter's second moon, off the port bow (reddish, most of it eaten by shadow); the docking area, from two separate cameras, showing three men maneuvering a storage drum into place; a shot of free space, with just an orange rim of Jupiter in a corner. I switched over to radar.

Then I got down to business. I was sitting in my own separate booth, with my view completely filled by a soft green screen. It looked very much like an old-fashioned radar screen, with one important difference: the blips of detected objects shown in three dimensions, since it's a holographic projection. There was a jumble of stuff in the center, from the Can itself and things parked near it. Then, further out, were tiny points of light that constantly shifted and changed, jockeying back and forth.

Every second the pattern changed. It was almost like a very fast two-step, only nobody ever danced this way; there were no repeating patterns. Jupiter is a huge, massive planet, and there is a swarm of junk orbiting around it. The asteroid belt lies between Mars and Jupiter, and Jove has captured a lot—it has a kind of asteroid belt of its own. Compare Earth: it has Luna, a few pint-sized rocks, and that's all. Jupiter has twelve moons, three larger than Luna, and enough garbage

orbiting it to make a half dozen more. The junk wasn't discovered until the first expedition came out this way, and it's been a nuisance ever since.

I punched a few buttons and, in mathematical language, asked the ballistic computer a few questions. The machine blotted out a small rectangle in my screen and printed its answers:

NO IMMINENT COLLISIONS RECORDED.

UNKNOWN OBJECT NOTED 13:45 HOURS. PRELIMINARY CALCULATION INDICATES NO DANGER.

YOU ARE SECOND WATCH OFFICER.

I relaxed. There wasn't going to be much to do on this watch. The chunks of rock and ice that revolve around Jupiter are dangerous—they can zip through the Can in a thousandth of a second, depressurize a level and kill several people. But there weren't any of respectable size headed for us.

Still, I checked out the unknown that appeared at 13:45 hours and logged my report into the computer. Its orbit showed that it was following an ellipse that crossed over the northern pole of Jupiter. The interesting thing was that the orbit swept right into the upper reaches of Jupiter's atmosphere—so close that, after a few passes, it would plunge in and burn up from sheer friction. That's unusual: most of Jupiter's "asteroid belt" circles around it in the ecliptic plane, out from Jupiter's equator. This was a good sized lump, too; radar showed it to be bigger than the Can itself.

Anyway, it was no danger to us. Possibly it had come in from interstellar space just a few days ago. Or maybe it was just an eccentric bit of matter from the asteroid belt. The

computer would store the data, and someday a research student back on Earth would use it in a study of the solar system. That's one of the reasons we—the Jupiter Project—are out here.

"John," a call came over my booth's speaker. "Come out for a talk when you get a break." It was the voice of my father, Paul Bowles.

"Just a minute," I said. "Got to finish checking the satellites."

I'd been dawdling, musing about that stray chunk of rock. I thumbed a button and the screen erased. Another button, and I was looking at a set of concentric red circles. The center circle was shaded yellow; it represented Jupiter. Each ring around Jupiter was a survey satellite. Most of them were in close to the top of Jupiter's atmosphere, orbiting just above the clouds of ammonia. (Ammonia is the same stuff used in household cleaners, only *this* ammonia is frozen into little crystals. The top of Jupiter's atmosphere is about two hundred degrees below zero.)

I went through the inventory, typing out questions for the computer about each satellite. Some were recharging their batteries from sunlight right now and transmitting engineering data. Others were bleeding off the excess charge they'd accumulated from particles in Jupiter's radiation belts, so they weren't working at full power. I had to check all these things and be sure the operation was "normal" for that particular satellite.

Routine work. But necessary: we get a lot of vital information from the satellites, and they're the only way we have of knowing what goes on close

to Jupiter. The Can itself is a third of a million miles from Jupiter, but some satellites orbit as near as a thousand miles above the ammonia clouds.

This time I cleared my board right away. If a satellite had shown a malfunction, though, I'd have to carefully diagnose the trouble and turn the problem over to Jenny or Ishi. A sick satellite is no joke. Who ever was on duty would have to make a house call on the patient and fix the thing on the fly, in free space.

BREAKING WATCH, I typed out for the computer. The other watch officer could handle routine matters. I got up and moved through the darkness to the door.

"Back from the sweat shops, I see," Dad said as I closed the door to the Hole. "Yep, exhausted," I agreed. We crossed the alcove and went into his office.

Dad was still a few inches taller than I, though the medical people say growing up in a low-gee environment will probably make us kids all taller than we'd ordinarily be. He sat down and put his feet up on his desk.

"John," Dad said, "I wanted to talk before you go rushing off to Ganymede. You leave in a day or two, isn't that right? Now that you're on a different work shift than your mother and I, we have a hard time keeping track."

"Yes, but I'll only be gone a week."

He tugged at his long sideburns. "Well, let's see. In, ummm, about six months you'll turn eighteen. I suppose you have considered what that means?"

"Sure. I'll be voting age. Only there's nobody to vote for, out here."

He smiled wryly and then frowned.

"There's more than that, I'm afraid. Below eighteen, a boy dips into the knowledge and history the human race has accumulated—even though mankind's history is mostly a series of regrettable errors. After eighteen, you've earned the right to make your own mistakes."

"Fine. I'm ready."

"Well." Dad looked uncomfortable. "I have been wondering if you might make your first big mistake if you elect to remain here at the Laboratory."

"Huh? You don't mean I should go back?"

"A solid grounding at Caltech will stand you better in the long run than what you can pick up casually here."

"I don't want—"

"Calm down. Sit." I noticed that I had gotten to my feet without being aware of it. I sat.

"I am only making a few observations," Dad said mildly. "What you do is your business—or will be, six months from now. You are officially a minor until age eighteen. That means you are a member of our family and a student. After that, where you live and what you do is strictly between you and the Laboratory administration."

"Yes," I said. I value my independence as highly as anybody, but it sounded as though Dad was practically throwing me out.

"But—you'll always be my son." He smiled. "You know you're welcome in our home. I'm just telling you, now, that it's time to start thinking about the future."

"I have thought about it. I'm going to stay here," I said, setting my shoulders.

"Now, don't go all stiff-necked on me." He grimaced and scratched his bald spot. "Have you figured out which job slot you're going to apply for?"

"Oh, well, probably for watch officer in Monitoring."

Dad smiled faintly. "I am sure your mother would be happy to know you freely elect to continue working in dear-old-Dad's section. What do you *really* want to do?"

"Uh, something outside, probably. Low-gee work."

"Not a bad choice. Just let me give you a little advice. Whatever you want, use the remaining six months to improve your qualifications for the job. I don't believe staying on at the Laboratory is going to be a simple matter for you kids."

"Why?"

"The Project can't support a Laboratory staff that continues to grow. The Earthside administrators agreed to send complete families out here only because they are socially more stable than groups of singles. There were a lot of other arguments, and good ones, against shipping an eight-year-old kid like you off to Jupiter."

"I pulled my weight!" I said indignantly.

"I agree. But some children have to be sent back when they come of age, or the Can will pop its seams in a few more years. And remember, appropriations for space research have leveled off. Commander Aarons is looking for ways to trim our costs."

"Somebody will get to stay."

"Certainly. I am just pointing out that it might not be you."

That worried me. Dad always pre-

tends he doesn't know what trouble is, and that worry is just wasted energy. It wasn't like him to cry wolf.

I glanced at him. He was looking at a big display screen on the office wall. It showed the placement of all tugs, shuttles and general traffic around the Lab, color-coded in orange and blue and green according to priority.

"Dad?"

"Yes?"

"I guess you're trying to tell me that some kids will stay and some won't, and it's not obvious that I'm so valuable to the Lab."

"Something like that."

"There are a lot of smart kids about my age. I guess I'd better shift into high gear," I said slowly.

Dad sat upright and looked at me steadily. "The competition is not going to be easy, and you're all trying for the same brass ring," he said seriously.

"Great. I'll give Commander Aarons a demonstration of what I can do," I said grimly.

"Spoken like a true member of the Bowles clan," Dad said, standing up. "Let's go to dinner."

"Isn't it a little early?"

"Not too. Anyway," he said, giving me a sidelong wink, "it will give you time to look over a catalog from Caltech."

And *that* remark, I think, scared me more than anything else he had said.

CHAPTER 3

WE TOOK an elevator up several levels and walked to the family apartment. The "gravity" was slightly less, because we were nearer the axis of the Can. Having it that way makes it easier

to relax at home—people don't tire out as quickly in low-gee conditions. If you're working long shifts you can take advantage of the fact: the Laboratory has a dormitory not far from where I was playing squash, and sleeping there will give you the equivalent of a full night's sleep in about four hours. I've used it myself, sometimes, and I always wake up remarkably refreshed. There's nothing like sleeping in your own room and in a bed you know, though, so usually I stay home.

Dad must have called Mom before he talked to me, because there was a warm cooking smell in the air as we came in the door.

"What's on?" I called out.

"Salad, artichokes, veal, custard," my mother said quietly, coming out of the small kitchen and wiping her hands on her apron. "And please do not shout at home."

"He was only releasing a little tension," Dad said, kissing her. "John has been listening to one of my lectures."

"Oh?" Mom said, instantly concerned. "About—?"

"Yes," Dad said. Evidently they had talked about my future before broaching the subject to me.

"Well, you needn't be so glum," Mom said. "The two of you look as though John was shipping for Earthside tomorrow."

"Well, I am shipping for Ganymede in two days," I said.

"I know, and we'll miss you," Mom said. "I don't see why we don't take our recreation trips together, when—"

"Leyetta," Dad said. "A nearly grown boy doesn't want his parents tagging along after him wherever he

goes. We're sandwiched into a small enough area as it is."

"Hmmm," she said noncommittally, and went back into the kitchen. "Dinner is almost ready."

I used the time to stow my school-work, straighten up my room and wash my hands. One of the troubles with living in the Can is the squeeze on space. My bedroom is about as big as a decent-sized closet on Earth. I have to keep it neat and everything put away in the wall drawers or I'd go crazy. I'm told we were all tested to find out whether we were naturally orderly, before we qualified for the Jupiter Project. No slobs allowed. How they decided the eight-year-old Bowles brat was okay I can't guess, but they did.

"John!" my father called, reminding me that I may have learned to be neat but I'm not always on time.

Dinner was good, as usual. Dad presided over the serving of portions and I dug in. I didn't pay much attention to the small talk about events around the Lab until Mom said:

"I heard an interesting rumor today, Paul. The *Argosy* leaves in a week or two, doesn't it?"

"Yes, it must. That's when the optimum conjunction comes up for the Earth-Jupiter cruise."

"Well, one of the women who works in Hydroponics with me heard that Earthside asked for a personnel inventory several months ago," Mom said.

"Surely they have that information already," Dad said.

"No, they wanted a new assessment of everyone in the Laboratory. And that's not all. Earthside asked if there were any jobs that weren't getting

done, because we didn't have the time."

"ISA thinks we're short handed?" I said.

"I don't believe the International Space Administration 'thinks' anything," Dad said. "It is too large, like a dinosaur, to do anything more than stay alive. The higher functions are left for others."

"Oh, Paul," Mom said, and looked at him with an amused smile.

"Well, perhaps I overstated my case. ISA takes orders from the Association for the Advancement of Science, and somewhere in that anthill a few people decide what happens and what doesn't."

"Mom, do you think ISA will send us some more staff members?"

"I don't know, I just work here. But that is what the rumor seems to imply."

"Just a while ago Dad was warning me that ISA might ship a lot of us kids home when we reach eighteen," I said.

"I will admit that does not seem to agree with the rumors," Mom said.

"Ah," Dad said, raising a finger. "There are several ways to interpret that. If ISA does send you back, John, they will have to replace you. The work must be done by somebody."

"I wish you hadn't thought of that," I said.

"I am merely guessing, son. A word of advice: don't waste your time trying to fit one rumor against another. Everyone in the Lab knows there is some sort of administrative battle going on in ISA and that there may be changes in our work here. An atmosphere like that breeds rumors faster than your

mother can grow this veal in her tanks."

"You grew this meat yourself, Mom?"

"Yes. I don't handle vegetables alone. It gets too boring."

"Hey, it's good." I took another mouthful, thinking.

"If ISA is going to send us more staff, I would like to know about it," Mom said. "We will need the time to increase the farming cycle."

She went on to explain how, in an emergency, Hydroponics Division could grow plants in zero-gee conditions for a higher yield. The trouble with the technique is that it takes more manhours to care for the plants and decreases the fiber content in the plants themselves—they don't need it to stand up to the pull of gravity any more—so the Lab's diet has to be changed to offset that. Farming anything out here, inside a tin can, is a tough job anyway, and can't be changed very quickly. The Can has a delicately balanced ecology that feeds over 500 people, and it doesn't pay to fool around with it.

"Dad," I said during a pause in the conversation, "why is all this happening? Why is ISA rocking the boat now, after the Lab has been out here nine years?"

My father made a tent with his fingers and leaned over the red-topped table. "Like most human problems, it is a matter of too many things happening at once. Earth is running out of raw materials. The fossil fuels, like coal and oil and natural gas, are going. Those don't hurt so much, because we have thermonuclear fusion to provide all the power we want. Fusion reactors

drive the *Argosy* and the *Rambler* and run that electric light, there." He pointed at the ceiling lamp.

"But once the oil is gone, what do factories use for lubricants? Where is the lode of iron? There simply isn't any."

"We're mining the asteroids," I said. "And don't forget Mercury, either."

"Sure, that's a help. In fact, without it Earth would have to cut back drastically and go without a lot of things."

"It's that serious?" Mom said.

"I am afraid it is. We have been isolated out here. Any outpost of humanity has a tendency to think of news from home as rather unreal, after a while. I have been following the news summaries sent out from Earth and it looks to me as though things are pretty bad."

Mom frowned and absent-mindedly tugged at her red hair. I suppose Dad hadn't mentioned any of this to her either, before now.

"Look, Dad," I said. "The asteroid mines are paying the way for the space program. Why should ISA's budget problems affect us?"

Dad smiled ruefully. "We knew when we signed on with the Jupiter Project that this Lab was the poor relation of the asteroid program—right, Leyetta?" Mom nodded. "Well, it seems to me things have gotten worse. ISA knows very well it can get metals and rare minerals out of the asteroids. But what can they get out of us?"

"Why, why—lots of things!" I sputtered. "We're finding out about Jupiter, the biggest planet in the system."

"Give that young man a silver dollar—asteroid silver, of course."

"Huh? Isn't scientific research worth paying for?" I said.

"John, dear," Mom said, "I think you are underestimating the importance of boredom in human history." With that she got up and began clearing the table. I helped her in my usual style, balancing a saucer on a glass on a plate.

"Your mother speaks like the Delphic oracle," Dad said, "but she is, as ever, correct. All those intelligent citizens back on Earth aren't paying for knowledge. They want romance, adventure—vicariously, of course."

"Adventure?" I said, putting the dishes into the electrostatic cleaner. "Out here?"

"Adventure is someone else doing something dangerous far away," Mom said. "The Jupiter Project qualifies on all counts."

"Aw, it's not so dangerous."

"Oh?" Dad said. He had gotten out a deck of cards and the cribbage board and was setting up for our standard three-handed game. "Here we sit, surrounded by the radiation from Jupiter's Van Allen belts, in the absolute cold of high vacuum, far from the Sun, the nearest help seven months away at best, without even a planet beneath our feet."

"Okay, it's a little dangerous. But so is crossing a city street."

"Getting hit by a commuter bus is ordinary, John," Mom said, "but a meteorite is another matter."

"Precisely. The trouble is that we've been pretty careful out here and nothing very exciting ever happens. That lets out the adventure part. The only thing left is romance."

"Romance," I said, thinking. "Oh, you mean hunting around for alien life forms."

"Yes," Mom said. She was straightening up the kitchen and making out a list of groceries to request for tomorrow. There isn't much storage space so she has to plan ahead every day. She flicked on our stereo and light, mellow music flowed into the room and covered the faint noises from other apartments. She looked up at me. "Your father is something of a pessimist about man as a political animal. More of a pessimist than I am, at any rate. But I do agree with him that the man in the street back home cares only about the chances of finding life on Jupiter, dear, no matter what else the Laboratory can do for science."

"The only trouble is—woe is us—the Lab has not been able to find life," Dad said. "I suspect the taxpayer and ISA both are getting tired of waiting."

I spent a moment sorting out the leftover food from our plates and putting it into the disposal tube. Nothing is wasted in a closed environment like the Can. Anything uneaten goes back to Hydroponics and Farming and enters the life cycle again.

Mom, seeing my frown as I thought things over, put an arm around me and said, "Come on, you two, that is enough politics for the evening."

"Right," I said. "I've got some studying to do in my room—"

"Play cribbage first," Dad said. "Sharpens the mind, lightens the soul. You're three games down, as I remember. Leyetta, your deal."

So I played. I won, and then did some studying, and went to bed, still

thinking about dollars and ISA and the future of John Bowles, Fledgling Space-man.

The next morning I spent with Mr. Jablons—the one who lost the chess game to Yuri—learning electronics in his low-temperature laboratory. A lot of our instruction is on a one-to-one basis, by necessity.

Take me, for example. I like electronics. I spent more than a year, back when I was twelve years old, building electronic detectors for our satellites. Kids are pretty good at small hand-work like that, if you can get them to sit still long enough to get the job done. My specialty was a little beauty called a Faraday Cup. It measures the total number of charged particles that strike a satellite. They have to be built just right, or they're worthless.

But after all, how many kids are interested in Faraday Cups? When I was learning about them Jenny was maneuvering skimmers and Zak was talking to computers. I comprised a class of one.

That's the way I like it, too. Big classrooms with thirty kids crammed in, listening to an adult yak for an hour—well, you can keep it. That sort of education went out with the twentieth century and nobody misses it. I've heard they're trying something like it again though, back on Earth, because the taxpayers have started squawking about the costs of teaching machines and high salaries. It's just one more thing to make me glad I'm in the Jupiter Project.

When Mr. Jablons was satisfied that I understood the new circuitry he'd

explained, he left me alone. I built a simple black-box arrangement, incorporating the new circuit, as an exercise. It filtered radio signals and passed one narrow band of wavelengths. I tried it out by listening in to some of the routine signals coming from our observation satellites near Jupiter, and the darn thing actually worked. I congratulated myself and walked down to the Education Center.

I was supposed to put in some time on a teaching machine, brushing up on differential equations. Instead I hung around outside, reading the bulletin board, until Jenny turned up.

"Say, I thought you were logged for teaching machine time now," she said.

I made a face. "That's just what I need, a girl who'll nag me until I straighten up."

Jenny tossed her head, sending her brown braids tumbling in the low gravity. "I wasn't aware that you needed any kind of girl at all."

"Okay, you win round one." I grinned. "There's no romance in my bones."

"Oh, Mr. Bowles?"

"Not at this hour of the morning, anyway. And besides, why bother when we might all be shipping Earthside soon?"

Jenny arched an eyebrow. "You got a lecture, too?"

"Right. Last night."

"Same here." She hooked a thumb into the belt of her work slacks and her pretty face took on a meditative look. "Do you think it might really be true?"

"My father thinks so."

"So does mine. He says they'll prob-

ably send all us kids back when we reach eighteen. No exceptions."

That made me stop a minute. "None? Gee, I'd been counting on some of us staying."

Jenny smiled. "The old competitive urge, huh? If only one of us stays, it'll be John Bowles?"

"I wouldn't put it *that* way—"

"Just kidding, my sweet. I'm only sorry I won't be here to keep you company."

"Why not?"

"I can hold my own as a shuttle pilot, but I'm not very good with the books. The Lab wants people with a lot of clout in the brains department. I don't fit."

"I wouldn't say that. You—"

"Now, don't go trying to buck me up. I can't stand to be patronized. Yuri tried the same thing earlier and I got so mad I could spit." She gave me a fierce frown. I made a demon face back at her and we both dissolved into laughter.

"How is Yuri taking the news?" I said.

"It's hard to tell. You know how Yuri is. I think he's a little worried that his academic work isn't the best."

"I don't think classes are that important."

"That's easy to say, when you're on top," she chided me. "With Yuri—"

"Attention!" the loudspeaker system said. Heads turned in the corridor and Jenny and I stopped talking.

"I have an announcement," a deep voice said. It was Commander Aarons'. "The *Argosy* has been delayed in its departure from Earth orbit. A series of holdups in fueling her and a few

unexpected repairs will make it necessary to reschedule her usual cruise. ISA informs me that the *Argosy* will be delayed at least two weeks. This will result in the *Argosy* reaching us about two and a half weeks after her scheduled arrival. Section and Division leaders should alter their work programs accordingly."

The loudspeaker went dead with a click. I looked at Jenny. "What does that mean?" she said.

I shrugged. "Not much. We'll have a little longer to get our reports ready."

"Why bother to announce it? There's a thirteen month wait between ships anyway. What difference does a few weeks make?"

"Come on, dummy. There's a favorable configuration between Earth and Jupiter that opens every thirteen months. If the *Argosy* misses it, the trip is off."

"Oh."

Zak came strolling out of the room that held the teaching machines. "Hear the news?" he said.

We nodded.

"I took the trouble to run a calculation, since I was using a teaching machine at the time. If the *Argosy* is delayed more than four weeks she won't make it at all."

"Rather close," another voice said. Yuri had moved in quietly to a position close beside Jenny.

"I wonder if ISA has anything up their sleeves," Zak said.

"Impossible to say. Anyway," I said, glancing at Yuri, "it's not our job to worry about ISA. Better we should find something new to dazzle the folks back home."

"Was that crack directed at me?" Yuri said sharply.

Jenny said quickly, "I don't think John—"

"What if it was?" I said casually.

"You ought to get your facts straight before you open your trap, Bowles," Yuri said.

"What facts?"

"The fact that Atmospheric Studies works harder than anybody else in this Lab. The fact that we've run more probes into the upper atmosphere of Jupiter than the original plans called for. The—"

"Spare me the advertisement," I said.

Yuri took a deep breath and was about to say something when Zak broke in. "Look, Yuri, we all know those things. ISA is starting to wonder why, with all this work, the Lab hasn't turned up any evidence for life somewhere down in that methane atmosphere. I guess it's natural for the rest of us—the ones who don't work in Atmospheric Studies—to wonder, too."

"There isn't any easy answer, no matter what people like Bowles think," Yuri said, jutting out his jaw.

"Okay," I said, "give us a hard one."

"I would like to hear about it," Jenny said, turning on a brilliant smile.

"Okay, let's sit down," Zak said. We went into one of the meeting rooms. It was painted in green and blue, which are supposed to be calming colors. The air smelled of grass and earth, with just a tangy touch of spring in it. I read a book once that described this in detail and called it "olfactory engineering" but all it really means is that different areas in the Can are designed to make

different impressions on the human subconscious. The feel of being outdoors relaxes people, for instance. So the engineers paneled the meeting room in a fiber-board that looks and feels like oak wood, and laid down a soft green carpet, and piped in distant insect buzzes and bird calls to mask the sounds of the Lab. Even if you're aware of the game they're playing, the effect works. I felt calmer, just sitting in the soft sculptured chairs that rise up out of the carpet. I could even smile at Yuri.

"Well, you know about the rest of the solar system," Yuri said, looking a little uncomfortable. His bulk seemed to have trouble finding a comfortable position in the chair. There is something odd about a big guy who fidgets. "Mercury, the closest planet to the sun, is far too hot to be useful. Venus appeared to be quite hopeful, until the Americans and Russians sent instrument packages there in the 1960's."

"It was hotter than a steam bath," Zak said. "Only no steam. No water at all. Just carbon dioxide."

"Correct," Yuri said. "That left Mars, or so people thought in the 1960's. But then, again, the exploratory probes they sent gave bad news. In 1965 the first photographs of the Martian surface showed huge craters, hundreds of miles across. If craters that big spotted the surface in large numbers, that meant they were not eroded away very quickly."

"Why?" Jenny asked.

"Well, look, Jenny, the same thing happens to Earth. It gets smacked with meteors. You don't notice any craters, though, do you?" Yuri said.

"No."

"Ah, but you should," Zak broke in. "There's a big one, a kilometer across, in Arizona. And from orbit they've seen the traces of a real monster, a hundred kilometers across, in Africa. It came from a meteor that fell a long time ago."

"Thank you, professor," Jenny said.

"That was a good point, though," Yuri said. "Mankind never found many craters on Earth because water and air have eroded them away. Hudson Bay, in Canada, is a crater that the Atlantic Ocean filled up. But nothing like that happened on Mars, and so the craters remain."

"Back in the 1960's, though, they turned the argument around," I said. "They found Martian craters, so there couldn't be much atmosphere."

"No atmosphere, no life," Yuri said. "There is a wisp of carbon dioxide, but there is no water. After NASA landed roving, packaged laboratories on Mars and none of them found a hint of life, everybody pretty nearly gave up."

"It looked as though Earth was alone as a life-bearing planet in this system," Zak said.

"How could they forget Jupiter?" Jenny said.

"Nobody forgot it," I said. "It was just too expensive to get here."

"Correct," Yuri said, leaning forward with elbows on knees and clasping his big hands together. "It was not until this century, in 2005, that a serious attempt was made to send a probe into the Jovian atmosphere. It malfunctioned due to pressure overload—"

"Meaning, it got squeezed to death," Zak put in.

"—before it could report on its experiments to find life. But the package of instruments did show that deep in the methane and ammonia there is water and it is warm, as warm as this room is now. All the conditions necessary for life are satisfied."

"Then why haven't you found any?" Jenny asked innocently.

Yuri pressed his lips together. "We don't know."

"Yuri, you help put together the rockets that drop instrument packages into Jupiter. It's not your fault if they don't turn up anything," Jenny said comfortingly.

"Right," Zak murmured.

"What puzzles me is that your probes go deeper and deeper, until the pressure crushes them, and they still don't find any living matter. No airborne spores, no bacteria, nothing," I said.

"We'll find some, Bowles," Yuri said, with a sudden flash of anger. "Just give me elbow room. You will see results." And with that he got up and left the room.

"Well, all this outdoorsy stuff didn't calm *him* down any," Zak said. "So much for the healing effects of bird songs."

"Yeah," I murmured, "he was going along fine for a while there. I guess we just reminded him of his problems and he covered up his worries by getting mad at us."

"Pretty deep analysis, doctor," Zak said.

"Go on, you two," Jenny said. She got up and palmed the room lights down, and then left.

"Thing is, I cast off for Ganymede tomorrow and Yuri is on the ship, too,"

I said. "Should be fun."

"You can count me in as well," Zak said.

"You're going?"

"I don't much want to, but the psych people say I should." Zak shrugged.

We watched Jenny walk down the corridor and out of sight. Skirts are even more impractical in low gravity than they are on Earth—harder to keep at a modest height, for one thing—so everybody wears pants. But there's no way to disguise a woman when she wants to be noticed, and Jenny departing was a far more pleasant and interesting view than the fake countryside of the meeting room.

"I think she's a little miffed that her peacemaker role between you and Yuri fell flat. She'll be okay by tonight."

"Sure. See you at 1900 hours? Got to go practice my guitar."

1900 hours meant a small party at Ishi's apartment. Ishi's parents maintain as much of the traditional Japanese life as they can, living 390 million miles from Nippon. They sit cross-legged on the floor, on tatami mats, and have delicately shaded woodblock prints on their walls. In the air hangs a faint background smell of rice and the salt tang of fish. It all blends together into a warm feeling of home.

Zak, Jenny and I sat in the Buddha position and took part in the ancient tea ceremony, exchanging small talk with Ishi and his parents. (My back ached, but I liked the mild green tea.) Ishi didn't seem bothered by the talk of sending us Earthside. But then, nothing ever seems to disturb Ishi.

It was a quiet evening. I walked

Jenny home and kissed her good night, but my mind was already racing ahead. I couldn't forget that I was bound for Ganymede, the fourth moon of Jupiter, in the morning.

CHAPTER 4

WE ASSEMBLED near the axis of the Can, already suited up. All Laboratory vehicles, from the small one-man shuttles Jenny and Ishi use, to the ion cruiser used on the Ganymede run, are kept in the center hole of the Can.

As I said before, the Can is a big rotating drum. Most of that drum is empty. The middle of the Can, except for the axial cylinder and the connecting spokes, is open to free space. Our cruiser was parked there and we had to go out and board her.

Captain Vandez stood at the air lock, checking over each of us to be sure we had all our suit vents closed, or hadn't put our helmets on backwards, or something equally stupid. It's in the regulations; he has to do it. A technician who never goes outside can forget a lot in the nine months between mandatory "vacations" on Ganymede. Anything overlooked in free space can be fatal.

"Sing out when I call your name," the Captain shouted. "Williams! Kandisi! Bowles!"

I answered and turned to look at the rest of the party. Zak waved from the other side of the tube, where he was holding onto an inset ladder. We were in very light gravity, almost at the axis. Orange signs reading ANCHOR YOUR LIFELINE—ALWAYS! jumped out at you from the white walls. The signs had

been stenciled on when these sections of tubing had been fuel tanks in Earth orbit. The *Argosy* used the tanks on the run out here and then left them for us to use. I recognized these; I had helped assemble this particular tube and airlock myself.

"Sagdaeff!"

Yuri answered "Yo!" He nodded when he saw me look at him.

In a moment Captain Vandez said, "You have all been on this milk run before, so I will not make a big speech about being careful. Remember, the *Sagan* is an ordinary cruiser. We won't spin her to give you artificial gravity. She's adequately shielded against high energy particles but we can't carry the mass to stop big chunks of rock, or even little ones. That means everybody stays in their suits, with helmets in place and ready to seal, *always*. Anybody violating the rules will have to deal directly with me, and that can be unpleasant. All right, into the lock!"

We filed in. We were exiting through one of the personnel locks and there were handholds everywhere. I felt a thrumming vibration through the soles of my suit as the pumps sucked the air out of the crowded lock. My suit limbered up and my arms and legs became easier to move. I read the meters and colored displays set below the edge of my viewplate to be sure my suit was feeding air properly. The air tasted a little oily, but then, it always does. There are some things engineering never does get around to solving.

The vibration stopped, a red light winked over to green above the big door, and the outer hatch came free.

Captain Vandez pushed it open himself. He gestured at a silvery thread fastened to the edge of the lock. It snaked away beyond view. The fellow in front of me leaned forward and snagged it. He climbed along it, hand over hand.

I was next. I clamped a round fastener to the line and cast off gently from the lock with a kick.

Every time you go out, it hits you hard. I was coasting along toward the "top" of the Can. It looked like I was gliding toward an ocean of stars, down a bright metal tube. The safety line ended by a lock in the side of a spider-like fusion cruiser, the *Sagan*. She was moored near the very top of the Can, against that awesome backdrop of stars.

The thing I like best about open space is the feeling of complete, utter freedom. It's as if I was a bird, able to fly straight and true.

Part of all this poetry comes from the feeling of weightlessness. Zero gee is pleasant enough inside the Can, but out here it adds to the sensation of freewheeling liberty. It's like having a weight lifted from your shoulders that you hadn't even known you were carrying. I felt great.

The man ahead of me had reached the cruiser. I watched as the *Sagan* grew and tumbled over just in time to brake my impact. I felt a touch proud of the maneuver; it proved that freefall squash had kept my zero gee reflexes in shape.

I stepped carefully into the *Sagan*'s lock. The inner hatch was open. I pulled myself through and found myself in a long room with passenger

seating arranged completely around the walls. A man in a ship's officer's suit gestured to a seat and I sat down. I fastened onto the seat and waited.

The room was filling rapidly. Our luggage had been brought aboard earlier—they didn't want people trying to carry cases while they negotiated their way across to the *Sagan*.

Zak came aboard and sat next to me. I noticed he was already eating some of the food rations that are fitted inside every suit. I hoped I never felt that hungry; the rations are balanced for nutrition and high protein, but they come out of squeeze tubes and I've never been able to get over the feeling that I'm eating toothpaste.

After a while everyone was in and the lock closed. I felt a tug of acceleration as the *Sagan* nosed out of its mooring point and drifted free of the Can. There wasn't any way to see this, of course: the passenger cabin was just a concession to us poor mortals, and didn't have any viewing screens.

There wasn't any cheerful speech by Captain Vandez, either, about our destination and flying time and how soon we could expect to be touching down on Ganymede. This isn't a commercial airline. Instead, after some nudging back and forth by the attitude jets, I felt a sudden kick in the stomach. At least, that's what it felt like when you weren't ready for it. The *Sagan* was accelerating away from Jupiter at about one Earth gee. For the first minute or so it felt decidedly uncomfortable. Then my body remembered where it was born and accepted one gee as normal; my muscles relaxed a little and my breathing became normal.

The odd thing about the *Sagan*—or any fusion rocket craft—is the silence. I guess I've watched too many old movies about the adventures of Captain Daring, Space Explorer. In those the rockets always take off with a roar like a lion with a hotfoot. The ship throws flame and sparks everywhere, Captain Daring clenches his teeth as the vibration shakes him, and you would swear that a hydrogen bomb couldn't make more of a racket.

Maybe it was like that, once. Now, out in free space, chemical rockets are as outdated as the horse. Yuri uses them to brake his atmospheric probes as they fall into Jupiter, but that's because they're a one-time-only item. He knows he isn't going to get them back. If he *could* retrieve the boosters he would use small ion engines, because they're more efficient. The instrument packages are taken in close to Jupiter by just such an ion engine, but not all the way. If the ion rocket got too far into Jupiter's atmosphere it would never have the power to escape. So it drops off the package, plus some chemical rockets—just like the ones that first shot men up to the moon. The rockets fire, slow the package down until it barely skips along the top of the Jovian atmosphere, and then they fall away. The instruments have stubby wings attached and these help guide the package into the upper layers. That's when the scientific experiments start.

Those little in-between jobs are the only ones I know that we use chemical rockets for nowadays. The days of Captain Daring and his thundering jets are gone.

Still, they might be an improvement over the dead quiet way the *Sagan* takes off. There's something kind of creepy about smoothly gliding away from the Can, with no roaring exhaust, no sparks.

Zak tells me I'm a romantic. Maybe so. Or maybe I just watch more old movies than he does.

After the acceleration leveled off I leaned my helmet against Zak's.

"Want to see the view?"

He nodded. I got up and pushed off toward the front of the passengers' compartment. Captain Vandez hadn't pressurized the ship yet. I met an officer just coming in the hatch and touched helmets with him.

"Okay if we go forward and watch over a 3D?"

"Well, I suppose so. How many of you? Just two? Go on, then. Grab a handhold, though, don't just float around. Never know when something might happen."

I waved to Zak and wriggled through the hatch. The next compartment was half-filled with baggage secured in netting. We were in the inner tube that ran down the axis of the *Sagan*. Around us on all sides were storage tanks. At the moment the tanks were empty; the *Sagan* was returning to Ganymede for more water.

At my end of the compartment, against the walls, were several 3D screens. These were the only concessions to the passengers, aside from seats, that the *Sagan* made. The screens gave front, rear and several side views. In color.

Zak bumped into me, but I ignored him. I was busy trying to estimate our

trajectory. The rear view was the interesting one. No, "interesting" isn't the right word. Beautiful is more like it.

In the center of the screen, directly behind the *Sagan*, was Jupiter.

Jupiter. King of the ancient gods. Lord of the Romans. The lion. The giant. The fat man. Jove.

It was yellowish-brown and it filled the screen. Horizontal bands of different shades and brightness crossed it. The bands are areas which revolve at different velocities. The equator moves fastest; a spot there goes around in just under ten hours. As you look toward the poles, the clouds move slightly slower.

That's what they are: clouds. We've never seen the surface of Jupiter, the solid rock or metallic hydrogen or whatever it is, and we never will. We can't get there. The pressure at the surface is thousands of times larger than the pressure at sea level on Earth. We could never design a ship to go there. Even if we could, there's nothing to see by. No light. The clouds I was looking at absorb all the sun's light, or reflect it back into space.

I strained my eyes, looking at the equator. I could just make out the writhing masses of giant clouds as they boiled over each other, racing around the planet. Jupiter was pulling them along at supersonic speeds. Below the ammonia clouds I could see where thousands of miles of methane crystals, hydrogen, ice, sulfur fumes, thunderclaps, and lightning storms as big as the continent of Asia—a cauldron of instant death for any man who went there.

The fat man: Jupiter has 318 times

as much mass as Earth. Earth's clouds are eight miles high; the banks of ammonia clouds I was watching were eight thousand miles above the surface.

The lion: Jove contains 70% of all matter in our solar system, outside the sun.

Even this far out, it filled the sky. The slightly fuzzy edges of the planet were on the side 3D views of the ship. Down below the equator I could see the Red Spot. It's a tumbling, awesome storm, bigger than a dozen Earths. Nobody knows what it is. Nobody knows how it got there, or when, or if it will go away.

On a side screen I caught a glimpse of the Can, a white dot rapidly dropping away toward the edge of Jupiter's disk. Further in was Io, a respectably-sized disk that glowed redly, like Mars, against Jove's angry face. Io is large as Earth's moon and at this distance I could have seen craters, had there been any. There weren't, though, because Io is covered with methane ice that fills in any craters there.

There is another tiny moon of Jupiter, even closer to the planet than Io, but it was on the other side of its orbit now.

"Ahem!" a woman cleared her throat next to my ear. "I don't think you boys should have the first look at everything."

"We got here first," Zak said reasonably.

"Rushed up here before we had barely gotten under way, you mean," the woman said, pushing in front of us at the rear view screen. She was as old as my mother and not half as good looking.

Zak opened his mouth to say something and I muttered, "Come on, it's not worth it. We've got all day."

We moved over to the forward view screen and Zak let out a yip. "Hey! Europa is almost dead ahead."

"You're right." A dull orange world hung in the 3D tank. "I didn't know we would get a close view this time."

Europa is Jupiter's third moon. From the Can it looks several times larger than Luna does from Earth, and it's a lot more interesting, too. At the equator Europa gets enough sunlight to melt the ammonia snow off, so the sharp edges of mountains jut up out of valleys of orange fog. Here and there I could see the eroded circles of craters. The moon looked more orange than it really is, because we were seeing it by reflected light from Jupiter

"Fantastic," Zak said. "Makes you wonder why we don't set up our base there, and forget about Ganymede."

"You're not the first guy to have that idea," I said. "But Europa only has a third of Ganymede's mass, and it's colder. When—"

"Are you boys going to block everything?"

"We're watching—" I said.

"Well, really, I think you should be grateful your parents even let you go on this trip alone. If you can't keep your manners—"

"Our parents haven't got anything to do with it," Zak said. "It's Laboratory regs, once we're above sixteen."

"Humf! We'll see what the Captain thinks about two young—"

"Oh, forget it," I said. "Come on, Zak." I didn't know the woman. She

must have come in on the *Rambler's* last flight.

On my way back to my seat I noticed the air pressure building and popped my helmet seal. I cocked my helmet back and sat down, wondering what I was going to do until we touched down on Ganymede.

Zak went in search of something to read; all our study materials were in our luggage. He came back with two stats of Earthside magazines, photographically copied onto plastic sheets. (When the magazine goes out of date, it is erased in a chemical bath and used over again.)

I paged through mine and read at random. One article was about the staggered working hours in the cities and how much it unsnarls the traffic tieup. There was a 3D picture of the subway "packers" of New York—men hired to shove people into already crowded subway cars, so they can carry a few more. That one earned a double-take.

The next article I read was a fashion tip for men: Handy Hints to Get the Right Tint. It had a 3D of a man wearing a maroon coat with an ascot, painting his fingernails.

I asked Zak if he thought Commander Aarons edited the copy that came through on the laser beam from Earth.

"Why should he?"

"Well, it seems to me Earth comes off pretty badly in these magazines," I said. "I mean, I'd almost suspect somebody was trying to keep us from getting homesick."

Zak put aside his poetry magazine. "Just what is it—oh, I see. Painting

fingernails is for women, right?"

"Yes."

"Who said so?"

"Why—well, *my* father doesn't do it. Neither does yours."

"Yes, they are rather conservative, aren't they? After all, John, the Lab is a backwater. An anomaly."

"How do you mean that?"

"We've got something to do, out here. You follow little green blips in Monitoring, I talk to computers—everybody's got a job. Even that brat back there—" he gestured behind us, where a baby was yowling—"will have something to do in a few years. Cleaning out the scum in the hydroponics tanks, I hope."

"So? They have work on Earth."

"That's where you're wrong." He pointed a professorial finger at me. "They've got jobs, yes. The government sees to that. Plenty of them. But there's not much work."

"You lost me again."

"How would you feel if you had to sit in an office every day, passing pieces of paper from one cubby-hole to another?"

"Bored, I guess. It would be like going to one of their schools all day."

"Probably so. It makes you feel pretty useless. That's the point. People like to see their work doing something; they want to see a final product. A chair, maybe, or a bridge, or a 3D."

"Uh huh."

"But that's all done by machines. The men just push buttons and move paper around."

"And paint their fingernails," I said scornfully.

"Sure. Because they're *bored*. They're

not doing anything they think is significant. Oh sure, the government *says* paper-passing is productive labor, but there's so much make-work people know it is a sham. That doesn't jibe with their ego, their self-image."

"Uh-ho, here we go again."

"Okay, I'll skip the jargon. The point is, they're trying to show their individuality and worth through something other than their work. It's like animals showing colored feathers."

"Expressing themselves."

"Right, only, out here, we've really got something to do. Fads don't catch on here. We're a different culture, really. You wouldn't look down on a Fiji islander just because he wasn't wearing a Brooks Brothers suit, would you?"

"No, but—"

"Anyway, Commander Aarons doesn't have time to worry about what you read," Zak said triumphantly.

I was still trying to straighten out that jump in the subject when Yuri came clumping over.

"Have you thought about what you are going to do in your recreation time?" he said.

"Sure," Zak said. "Just what we usually do—stay away from the crowd."

"Crowd?" Yuri said, his thick forehead wrinkling.

"That's what we're out here for, lumox," I said. "To get away from metal walls and people."

"I usually try to get in shape. You know, run a few miles and play some volleyball."

"Fine. Go ahead." I said.

"What else is there?" he persisted.

"I usually go out in one of the Walkers. The men at the base are

always happy to get some help," Zak said.

"Same for me," I said.

"What for?" Yuri asked.

"My friend," Zak said, "you are no doubt aware of the Ganymede atmosphere project? The base there spends most of its time building new fusion plants, to generate power. The power is used to break down the rocks into basic carbon compounds, water, and oxygen. They're slowly building up an atmosphere that we can breathe. Only, it is a complicated business. They need to know how the air and the temperature is changing all over Ganymede, not merely around the dispersed fusion plants."

"So they've put out recorders and pocket laboratories, all over Ganymede," I said. "Every now and then somebody has to go out and collect the data or make a repair."

"It is a fairly dull job if you happen to live on Ganymede all the time," Zak said. "A tour of the ice fields can get monotonous. But to people like us, it's a chance to get out and see things. So I volunteer, every recreation period."

"I see," Yuri said. "You little squirts are always into something, aren't you? Me, I'm going to stick to my athletics. It might come in handy on the squash ladder." He looked at me significantly.

"See you around," I said. Yuri took the hint and walked away. I went back to my magazine.

CHAPTER 5

I WAS DOG TIRED when we came in over Ganymede. The *Sagan* made few concessions to passengers; I was sore

from my space suit and fed up with food from a tube.

That, and depressed. I had a funny premonition there was a string of bad luck coming up, and the feeling wasn't all due to the fact that I'd lost the squash tournament two days before to Yuri. Call it a hunch. Looking back on it, the hunch said I was going to have trouble but it didn't specify any particular kind, so whatever I had, it wasn't first rate precognition. So much for hunches.

Most of our party was asleep when the pale white disk of Ganymede rolled into view in the forward viewport. Zak and I sneaked up to get a better look, even though the seat belt light was on. I passed Yuri dozing in an aisle seat, no doubt reliving his triumph. I ignored him; I'd seen enough of that beefy frame in the tournament.

But he tripped me as I went by.

I stumbled slightly in the weak gravity and heard his hollow chuckle. "Still clumsy, eh Bowles?"

I knotted my fists and started to say something.

"Oh, mama's boy is taking offense?" Yuri interrupted me. "Tsk tsk."

"C'mon, John," Zak said, putting a restraining hand on my shoulder. "Don't bother."

I didn't say anything. There was nothing I could say that wouldn't come out sounding like I was whining. After a pause I turned and followed Zak down the aisle, seething. We looked out the forward viewport.

Glittering ice sheets spread out from both poles of Ganymede, but around the equator was a thick belt of bare rock and river valleys. The rivers are

ammonia and only flow in the daylight hours. The valleys were choked with a pale orange fog; naked slate peaks jutted above it.

Thin atmosphere sang around the *Sagan* and we went back to our seats. I wondered if this was going to be the unlucky part—in which case I'd better start in on my final prayers—but no, in a moment our nose bit in and we settled into the long glide down.

I watched as Jupiter's fourth moon grew in the port. We were here for two weeks of frolic away from cares, away from family, away from the Jovian Astronautical-Biological Orbital Laboratory. The family part is important: the psychers say it's good for kids like Zak and Yuri and me to get away from the *loco parentis* every half year. Keeps down the nervous wiggles in the Lab, makes it easier to live all together in one huge tin Can. (There's no can more important than the one you call home, so we capitalize it—the Can.)

There was a sudden tug as Captain Vandez gunned her, a faint dropping sensation, and then a solid bump. I started unstrapping.

Zak snapped shut his book of poems—brushing up on the competition, he called it—and patted around for his glasses. With them on he looks like the kid computer ace he is; when he's in his literary lion phase he pretends he doesn't need them.

"Collect your baggage on the ground," came a shout over my suit radio. I motioned to Zak and we were the first ones into the air lock. It cycled and the hatch popped open.

I stared out at a range of steep hills, covered in white water frost. About five

hundred meters away I could see the slight grey tinge that was the life dome, against a sky of black.

"Move it!" someone called over radio. I looked down and saw a man waving at the drop rope that hung by the air lock.

"Over you go, kid," I heard Yuri's voice behind me and somebody kicked me out into space. I grabbed for the rope, caught it with one hand. In Ganymede's one third gee you don't fall fast but I was still recovering when I hit the ground with a solid thump.

I took a few steps away from the rope and then turned back. Yuri was just finishing a smooth slide down.

"You're still club-footed, junior," he said and I took a swipe at him. He dodged and took it on the shoulder.

"Come on," I said, setting my feet.

"Mad about a little rough-housing, smartass?" he said with mock surprise.

Somebody shoved me aside. I turned threateningly and saw it was the man who had secured the drop rope. "Break it up!" he snarled at me. "Get out of the way of the rope. You kids can play big men somewhere else."

Yuri walked away. I tried to cool off and waited until Zak came down.

"He's still riding you, huh?" he said.
"Looks like it."

"Yuri hates you being brighter and quicker than he is so he uses muscle instead. Don't let him provoke you."

I balled up a fist. "I'd like to—" "Yeah, I know. But that's playing his game."

"So what? I can't—" "Listen, he's got you going both ways. That guy didn't see Yuri boot you out, he just heard you try to pick

a fight. So Yuri got all the points in that scramble. Listen, next time just treat him okay. Maybe after this he'll feel square with you—after all, you beat him pretty badly in the exams last month."

"Well . . . maybe."

A winch was already lowering the nets of baggage from the cargo lock. We walked over and helped two men unroll the net. Our cases were in it. We scooped them up and started toward the base buildings. They housed some of the fifty permanent staff members; the rest lived under the life dome, further away.

The *Sagan*'s jet splash had melted the ground and made a brown spot in the ghostly white. We trotted along, my suit chuffing away to fight off the cold. When the first expedition landed here the surface was at 150 degrees Fahrenheit below zero. The reclamation project has warmed things up, but not much.

We reached the administration building and banged on the lock. In a moment the green light winked on and we cycled through. We came out in a suiting-up room. I popped my helmet pressure and found the air was sweeter than I'd expected; they're making improvements in the base all the time. We luggered our bags into the next room and found a man behind a counter with a clip board.

"Your name—oh, Palonski and Bowles. Welcome back. Gluttons for punishment, aren't you? I see you asked for a Walker again."

"Better than refueling duty," I said, and he chuckled. Pumping water and ammonia into the *Sagan*'s tanks is the most boring job imaginable: you watch

dials for two hours, spend five minutes switching hoses, and then sit some more.

He assigned us bunk numbers and let us go; the families with children would get a complete lecture on safety and a long list of things they couldn't do. I'd heard the lecture ten times before and could probably give it about as well as he could.

We found our bunks and stowed our gear without wasting any time. We didn't want the mob to catch up with us. As soon as things were squared away Zak and I beat it across the base and trotted over to the dome lock.

The dome is the whole point of Ganymede, for me. I was out of my suit and putting on tennis shoes almost before the air lock had stopped wheezing. I had to gulp a few times to adjust my inner ear to the dome's pressure, but that was automatic. Anybody who has been in space learns to do that without thinking—or ends up with sudden ear pains when he forgets. Zak was just as fast, and we went through the door together.

To anybody living on Earth I guess the dome wouldn't be a big deal. But to me—I came out the door and just stood there, sopping it up. Overhead the dome arched away, supported by the air I was breathing. It rises to 1500 feet in height and is three miles in diameter; a giant blister on Ganymede. Inside the blister is the only spot where a man can walk without a suit.

Zak and I trotted the mile to the ski shed. There is a funny nose-shaped hill under the dome, with one steep face and one shallow. We carried our skis up the difficult side and strapped them

on. I stood looking out, surveying the land under the dome. Hills sloped into each other, making stream beds and narrow valleys. A late morning water fog rose from a marsh land. Up near the top of the dome, so thin you had to have faith to see it, was a wisp of cloud. Back at the edge, the way we had come, a few people were spreading out from the lock.

"Come on!" I said, and pushed off. We started off slowly and then began to weave, making long undulating patterns down the hill face. You don't get as much speed in a lighter gravity, but you can make fast turns and prolong the ride. The edges of the skis are turned up so you can lean into the turns. All the hills under the dome have snow—it's that cold.

We skied most of the afternoon, until there were too many on the slope. Then we took a hike around the dome to see what was new. The experimental farm had grown and most of the crops—adapted soybeans, root vegetables, apples—were doing well. The farm is the seed of what Ganymede will become, once the atmosphere project gets going. At the moment the fusion plants break down rock and liberate carbon dioxide.

The CO₂ mingles with the methane in the atmosphere and produces the "greenhouse effect"—trapping the sun's heat before it can reflect back out into space. In a few years, if everything works right, we'll start seeding small, specially-bred organisms around Ganymede. They'll be like the first life that evolved on Earth—not oxygen-breathers at all. Such plants aren't hard to find; they're alive on Earth right

now. They can live off methane and CO₂ and breathe back into the atmosphere pure oxygen.

That's where the experimental farm under the dome comes in. With the greenhouse effect warming things up and micro-organisms giving off oxygen, eventually a soybean will grow somewhere and then—well, then colonists will be panting down our necks, wanting to get in. By then it will be time to push on . . . before they build a Hilton.

That is, assuming ISA didn't send me back on the *Argosy*, I reminded myself.

That thought wasn't so easy to brush aside. I tried pretty hard, though, the next two days. I climbed hills, skied and played soccer until my legs threatened to stop holding me up. When I got up in the morning Zak would just lie in bed groaning about his past sins, and wish for a chocolate sundae to tide him over until breakfast.

The third day we were skiing sort of half-heartedly, waiting for enough people to show up to make a soccer team, when I lost sight of Zak on the slope.

I turned uphill, came to a halt and looked around. There was nobody very near. I poled my clumsy way uphill and looked again. There was a small mound nearby. I skirted around it to get a better view.

"Hey!" Zak said. He was lying in a small depression behind the mound. His skis were off and there was a brown gouge in the snow.

"Why didn't you yell before?" I said, clomping over to him.

"I was embarrassed. It's kind of

dumb to take a fall on an easy grade like this." He grinned sheepishly.

"Hurt anything?" I put out a hand to help him up.

"I don't think—ow!"

"Sit back down. Let's see." I unwrapped his left ankle.

"How is it?" He blinked owlishly at his leg.

"Sprained ankle." I started unclipping my skis.

"Will I be able to play the piano again, doctor?"

"Sure, with your feet, just like before. Come on." I got him up and leaning on me. "Think you can walk?"

"Certain—ow!"

He did make it, though, to the bottom of the hill. From there I hiked back to the dome lock and got a small wagon usually used to haul things to the experimental farm. The base doctor walked back with me and bandaged up Zak's ankle, making the same diagnosis I had, only using longer words.

I got him settled into his bunk. The doctor delegated me to bring him his meals and the first thing he asked for was a milk shake. I shrugged and went over to the cafeteria to weasel one out of the cook—no mean feat.

I asked the man tending counter and he told me it would be a few minutes—several people had lunch coming up. I stood aside to wait. The woman from the *Sagan* was next in line behind me. She asked for a cup of coffee and a vegetable roll and got it immediately. Then she leaned over to the counter-man and said loudly, "These youngsters all want special favors, don't they?"

I stood there trying to think of

something to say until she flounced out. If it had been Zak he would have come up with something cutting and brilliant, but I acted as though I had a mouth full of marbles and my face burned with embarrassment.

"You're the younger Bowles, aren't you?" a deep voice said.

I looked up. It was Captain Vandez; he looked tired.

"Yes sir."

"I heard about the Palonski boy just now. Unfortunate."

"It isn't anything major," I said. "Zak will be walking by the time we ship home."

"Good." He nodded abruptly. "The base commander has you two slated to take the Walker out on a routine inspection tour starting tomorrow. I was afraid this accident might scrub it."

"It will."

"Not necessarily. Another boy volunteered for the job two days ago. I told him both places were filled, but now there is a spot vacant. You see, Bowles, base personnel are all assigned to other jobs now and we are a bit squeezed. If you don't mind going out with another boy . . ."

"Who is he?"

Captain Vandez sighed and looked at a paper in his hand. "Sagdaeff. Yuri Sagdaeff."

"Oh." I gulped. "Could I let you know in a few minutes?"

"Of course. Take your time."

I got the milk shake and put it in a sealed carrying box. I was still in my suit, so I put on my helmet and cycled through the cafeteria lock as fast as I could. Then I double-timed it through

the pink methane haze back to our dorm.

When I told him, Zak stopped slurping and made a raucus noise.

"That sneak!"

"Huh?"

"Remember when we told him about the Walker? I know just how his mind works. Sagdaeff thinks we're making points by doing the inspection tour. He wants his share."

"What for?"

"Well, the way things look now, my youth, some of us will stay at the Lab and the rest will ship out. Yuri wants to rack up points with Captain Vandez and hope the word gets back to Commander Aarons about what a keen guy our Yuri is. He's not dumb."

"Aren't you being a little cynical?"

"Every realist is at first called a cynic," he pontificated.

"You don't think I should go?"

"You're just giving him a break. After all, you and I have been out in the Walker before, doing odd jobs. The guys here at the base *know* you're not a Johnny-come-lately."

"The work has to be done," I said firmly. "The Project is more important—"

"Okay, okay," Zak said, rolling his eyes. "Go ahead. Tramp the icy wastes with Yuri for the glory of the ISA. I'll stay here and write terrible things about you in my diary and starve to death."

I threw a pillow at him and went out to volunteer again.

The next morning I suited up and walked through the scattered buildings that make up the Ganymede base. The

Walker was parked at the edge of the base; its mate was off on some other task.

It stood on six legs and was fourteen feet tall. The living quarters were in the bubble set on top. The bubble had big, curved windows facing in all directions, with an extra large one set in front of the driver's seat. Beneath it, almost lost in a jumble of hydraulic valves and rocker arms, was the ladder used to enter through the floor of the bubble.

The Walker was painted bright blue for contrast against the yellows and reds of the methane gas and ammonia ice of Ganymede. The antenna on top was green, for some reason I have never understood, and underneath the forward antenna snout was neatly printed *Perambulatin' Puss*. Everybody called her the Cat.

"Morning!" I recognized Captain Vandez's voice even over suit radio. He and Yuri walked up to the Cat from the other side of the base. I said hello. Yuri made a little mock salute at me.

"Well, you boys should be able to handle her," Captain Vandez said. He slapped the side of the Cat. "The old *Puss* will take good care of you as long as you treat her right. Replenish your air and water reserves at *every* way station—do not try to skip one and push on to the next, because you won't make it. If you fill up at a station and then go to sleep, be sure to top off the tanks before you leave; even sleeping uses up air. And no funny business—stick to the route and make your radio contacts back here sharp on the hour."

"Sir?"

"Yes, Bowles?"

"It seems to me I've had more experience with the Walker than Yuri, here, so—"

"Well, more experience, yes. You have taken her out before. But Sagdaeff practiced all yesterday afternoon with her and I have been quite impressed with his ability. He is older than you, Bowles. I think you should follow his advice when any question comes up." He looked at me through his face plate and smiled gently.

I didn't say anything. I didn't like it, but I didn't say anything.

Captain Vandez didn't notice that I hadn't replied. He clapped us both on the back, in turn, and handed Yuri a sealed case. "Here are your marching orders. Follow the maps and keep your eyes open. Good luck!"

With that he turned and hurried back toward the base. He was a busy man with a lot to do. I supposed I shouldn't be too mad if he relied on the older of us two—usually, the kid who has been around a while longer can handle himself better. It was just that in this case I disagreed.

"Let's move it," Yuri said, and led the way to the ladder. We climbed up and I sealed the hatch behind us.

I was standing in the room that would be home for the next five days. It was crammed with instruments and storage lockers, except where the windows—ports, to use the right technical term—were. There were transparent plates set into the floor so we could check on the legs. The sunlight streaming in lit up the cabin and paled the phosphor panels in the ceiling.

Yuri and I shucked our suits and laid out the maps on the chart table. I sat

in the seat next to the driver's and quickly went through the board check. The lightweight nuclear engine mounted below our deck was fully charged; it would run for years without anything more than an occasional replacement of the circulating fluid elements.

"Why don't you start her off?" Yuri said. "I want to study the maps."

I nodded and slid over to the driver's place. I clicked a few switches and the board in front of me came alive. Red lights winked to green and I revved up the engine. I made the Walker "kneel down" a few times—that is, lowered the bubble five feet—to warm up the hydraulic fluids; it is hard to remember that the legs of the Cat are working at temperatures a hundred degrees below freezing, when you're sitting in a toasty cabin, but it can be dangerous to forget.

While I was doing this I looked out at the life dome rising in the distance. I could pick out people sledding down a hill and further away a crowd in a snowball fight. A scramble like that is more fun on Ganymede than on Earth: somebody a hundred yards away can pick you off with an accurate shot, because low gravity extends the range of your throwing arm. We don't have anything really spectacular on Ganymede in the way of recreation—nothing like the caverns on Luna, where people can fly around in updrafts, using wings strapped to their backs—but what there is has a lot of zip. For a moment I wished I was out there, in that isolated Earth-like environment, tossing a snowball, instead of piloting a Walker up to the ice fields. Then I cut the

thought short; it was too late to back out now.

I engaged the engine and the Cat lurched forward. The legs moved methodically, finding the level of the ground and adjusting to it; gyros kept us upright and shock absorbers cushioned our cabin against the rocking and swaying.

I took us away from the base at a steady twenty-five miles an hour; it would be slower when we hit rough country. The morning sun came slanting in as we moved east along the wall of the valley and I switched on the polarizers in our windows to keep down the glare. *Puss* cast a shadow like a marching spider on the slate-gray valley wall.

Maybe I should explain about morning on Ganymede; it's a complicated business. The hardest thing to adjust to when you first land here is the simple fact that Ganymede is a moon, not a planet. It's tied to Jupiter with invisible apron strings that keep it tide-locked, one face toward Jupiter, *always*. Meanwhile it revolves around Jove and in turn the Fat One revolves around the sun. The situation is pretty much the same as the Earth-Luna system: Luna shows the same face to Earth and revolves around it in about 28 days, so the lunar "day"—one complete day-night cycle—is 28 days long. Ganymede revolves around Jove in a fraction more than 7 days, so its "day" is 7 days long; the sun is in the sky three and a half days, every week.

This makes a pretty complicated week, believe me. The base has legislated that sunrise occurs at Saturday midnight; it's arbitrary, but it makes

for a symmetric week and symmetry is like catnip to scientists. We were starting out Sunday morning and the sun would be in the sky until Monday afternoon. Then the light show in the sky would start.

That's when the sun slips behind Jupiter. You see a rosy halo around Jove because you're suddenly able to see through the outer fringes of its atmosphere. Things are dark for an hour or two and you can sometimes see the other moons sliding in or out of eclipse themselves; if you strain, the Lab shows up as a twinkle of white. Then the eclipse is over and the sun breaks out from behind Jupiter; it gets warmer and daylight stays around until Wednesday noon.

All this time Jove squats in the middle of the sky. I say "squats" because it really looks like the Fat Man. It's about 83,000 miles from pole to pole, but Jupiter is 88,000 miles across at the equator which makes it look like a striped watermelon. Jove bulges at the equator because its spin throws the thick atmosphere outward around its middle.

Jupiter stays there, beaming down, all through the "night." But there's the catch: because of the Fat Man, there isn't anything you would call a night. We're a long way from the sun out here—more than five times as far as Earth—so we get only one twenty-seventh the sunlight that Earth does. During the three and a half days of "night" Jupiter hangs in the sky and reflects the sun's light onto Ganymede, the same way Luna gives Earth moonlight.

Luna is rock, which doesn't reflect

light very well. Jupiter's clouds reflect the sun's rays eight times better than moon rock, and it fills two hundred and fifty times as much of the sky as Luna does when viewed from Earth. That means when Ganymede is directly between Jove and the sun—that is, when Jupiter is at full phase—the Fat Man shines down on us with more than a hundred times as much light as the moonlight on Earth.

There isn't any night on Ganymede, really—just a sort of twilight. You can find your way around just fine in what amounts to a mere thousandth of the illumination present in the "day" phase, when the sun's in the sky. It's a trick of the human eye.

Dad says it's because we evolved in a green jungle, so our eyes are used to a wide range of light—all the way from high noon in a summertime clearing, to the dim rays of dusk as seen from the back of the family cave. So, to us, almost any amount of light looks normal. The light unit you read by in your living room is 400 times weaker than sunlight—but it gets the job done.

Anyway, night on Ganymede looks pretty much like the daytime; the only difference is that you don't see the sun.

At the moment, as I said, the sun was streaming through the windows of the Cat and I had to polarize them to cut the glare. Yuri looked up from his map and said, "By the way, that little maneuver back there didn't slip by me."

"What?"

"Don't play dumb. I heard you try to talk Vandez into putting you in

charge. It's a good thing he saw through you."

"Well, I don't know," I said slowly. "It seemed to me as long as you didn't know much about a Walker you shouldn't be running one."

"What is there to know? I picked up all I need in a few hours. Here, get out of the seat."

I stopped the Cat and Yuri slid into the driver's chair. We had reached the end of the valley and were heading over a low rise. Here and there ammonia ice clung to the shadows.

Yuri started us forward, staying close to the usual path. The whole trick of guiding a Walker is to keep the legs from having to move very far up and down on each step. It's easier for the machine to inch up a grade than to charge over it.

So the first thing Yuri did was march us directly up the hill. The legs started straining to keep our cabin level and a whining sound filled the air. The Cat teetered, lunged forward, stopped and died.

"Hey!" Yuri said.

"You shouldn't be surprised," I said. "She's just doing what any self-respecting machine does when it's asked to perform the impossible. She's gone on strike. The automatic governor cut in."

Yuri said something incoherent and got up. I took over again and backed us off slowly. Then I nudged the Cat around the base of the hill until I found the signs of a winding path previous Walkers had left. Within fifteen minutes we were in the next valley, its hills lit with the golden glow of the sun

filtering through a thin methane cloud overhead.

CHAPTER 6

WE MADE GOOD TIME Sunday. I did most of the driving. Yuri gradually picked up the knack of guiding the Cat—I suspected Captain Vandez had him practice only on flat, even ground around the base the day before. The captain was a spaceman, after all, and groundhog work wasn't his piece of pie.

We slept overnight in the shadow of a thin, tall peak widely used as a landmark; the map called it *Ad Astra*, Latin for "to the stars." The first time I heard that it sounded a little silly, until I noticed that the peak looks something like a rocket from a distance, if you squint your eyes a little.

Before we turned in for the night I located the way station that was our destination, and camped us next to it. The station wasn't much: just an automatic chemical separator and a set of sampling devices. The chemical plant is vital. It collects water frost that condenses on its outstretched plates—usually a pint a day. The water is automatically stored. Whenever a Walker comes by the driver hooks up his air and water tanks to the station's water reserves and replenishes his supplies.

Where does the station get the air? That's the trick: water is hydrogen and oxygen, so if you could break it up and throw away the hydrogen gas, you would have all the breathable oxygen you need. The Walker does just that—it passes an electric current through water to vaporize it, and then bleeds off the oxygen.

Air isn't just oxygen; the first space-

men found it a lot safer to use a lot of inert nitrogen, too, to keep down the risk of fires. The station extracts nitrogen from the methane atmosphere all around it, automatically, and has it ready to mix with the oxygen.

Before we bedded down I connected the air and water hoses from the Walker, clicked a toggle switch on the control board over to FILLING MODE, and forgot about it.

Monday morning the sun was a third of the way across the black sky and Jupiter's banded crescent resembled a Cheshire cat's grin. Yuri fixed a quick-heating breakfast and we set out.

Our route now ran due north. We wove through wrinkled valleys of tumbled stone and ammonia snowdrifts, keeping an eye open for anything unusual and enjoying the scenery. We were heading for the edge of the "tropical" zone of Ganymede—the belt around the equator where the rock is exposed. Beyond that band lie the ammonia ice fields. The temperature drops steadily as you leave the equator; if the Walker would take us that far (and if we were crazy) we would have found mountain passes near the north pole at three hundred degrees Fahrenheit below freezing.

Slowly, steadily, man is pushing the "tropical" zone toward the poles. Ganymede is warming up. Our route took us by the remote sensors our scientists planted out in the wilderness to monitor the slow changes in the Ganymede landscape and atmosphere caused by our tinkering.

We avoided the areas near the fusion plants. The big reactors throw out heat and gas at an enormous rate. The ice

around them melts and forms churning rivers. All that liquid ammonia and water is channeled into the reactors and the heavy hydrogen in it consumed as fuel to yield heat.

Given half a century the process is going to convert all the ice and burn away the toxic gases. Another fifty years and there will be air and crops and people on Ganymede. I might live to see that—or maybe by that time I'll be in a Walker on Titan, Saturn's huge moon. Titan is a twin to Ganymede, and just a little less massive. But Saturn is further from the sun than Jupiter and gets less than a quarter as much sunlight. Titan would freeze a man stiff in two seconds without a pressure suit. It will be a while before anybody goes there for a vacation.

Not that Ganymede was all that warm, either. Our cabin heater ran constantly to fight off the chill that seeped in. Halfway through Monday morning we stopped in a narrow valley and I suited up; the sensor package I had to check out was a mile away, halfway up the side of a hill. The path was too dangerous for the Walker.

I was glad to get the exercise. Ammonia fog boiled up from the valley and wreathed the peaks ahead; I got so interested in the view I almost missed the package. It was a metal box with scoops and nozzles sticking out in all directions. I opened it up and took out the set of test tube samples I was to carry back. The map had carried a red tag at this one, so I looked it over.

The water collector had a pebble caught in the middle; probably it had lodged there during one of the pint-

sized quakes Ganymede has. I replaced a defective bleeder valve in the oxygen sampler and hiked back to the Walker.

After I unsuited I made the mandatory hourly radio call back to the base. A familiar voice answered.

"Zak!" I said. "Don't tell me you're holding up your literary career to stand radio watch."

"Funny man. There isn't anything else to do, with a bum ankle. How are you and Yuri making out?"

"Okay. Say, would you monitor that package I just fixed?"

"Sure, just a minute. Yes, she's sending an all clear now."

We talked for several minutes. There wasn't any important news from the Can and Zak seemed a little bored.

Yuri nudged me. "You guys going to talk forever?"

"Signing off, Zak," I said, and replaced the mike. "What's bugging you, Yuri?"

"Nothing. I just don't think you guys should jam up the air waves with idle chatter," he said, not looking at me.

It seemed to me he was put out because Zak didn't ask to speak to him. Even Yuri wanted to have some friends, and there's nothing like a few days out in the Ganymede wastelands to make you feel lonely.

We stopped several times that day to check out sensor packages. Most of them were at least a few hundred yards from any spot a Walker could reach. They're set up high to keep them out of the steams of ammonia that sometimes come pouring down the valleys. Yuri and I took turns going out to them; somebody has to stay with the Walker at all times.

I found one package that had been the victim of a quake. The soil under one of its legs had dropped two feet and the package was teetering on the edge of a hole. All its sample tubes had broken.

The third time Yuri went out he came back empty-handed. He couldn't find his package. I violated reg's a little—and the site was only a city block away from the Walker—and walked out to it with him.

"Gee, you know, I remember this spot," I said. "We came by here a few years ago. The package is right around this ledge."

"Well, it's not here now." We were standing by a shelf of yellow rock with boulders scattered around.

"What did the map say was wrong with it?"

Yuri looked around impatiently. "It stopped transmitting a few months ago. That's all they know."

I turned to go. "Well, there's—wait a minute! Isn't that a Faraday cup?"

I bent down and picked up a little bell-like scrap of metal that was lying in the dust. "One of these is usually attached to the top of a sensor package."

I looked at the nearest boulder. It must have weighed a ton, even on Ganymede. "I bet I know where our package is."

We found one other piece of metal wedged under the edge of boulder. I hiked back and got a replacement package. It took a while to set up and this time we put it away from an overhang.

Getting the package's radio zeroed in on the base was a little tricky since

we were down in a low trough and had to relay the signals from base through the Walker's radio at first. It took a big chunk out of the day. The next package to be checked was a mile walk from our planned way station for the night. We elected to leave it for morning, but then I got restless and said I would walk out to the site myself.

Yuri was doing a lot of the driving by now; he got us over to the way station in good time. I suited up and told him to make a real feast for supper; I was hungry already.

The eclipse of the sun was just ending as I set out. We had watched it for the last hour and a half. I walked along a stream bed and in a way it was like early morning on Earth—as the sun broke out from behind Jupiter things brightened, and the light changed from dull red to a deep yellow. Everything had a clean, sharp look to it. The sun was just a fierce, burning point and there were none of the fuzzy half-shadows you're used to on Earth.

The sensor package needed a new circuit module in its radio; the base had guessed the trouble and told me to carry one along on the walk out. That wasn't what interested me, though. This particular package was sitting in the middle of a "seeded" area. Two years ago a team of biologists planted an acre of micro-organisms around it. The organisms were specially tailored in the lab to live under Ganymede conditions and—hopefully—start producing oxygen.

I was a little disappointed when I didn't find a sprawling green swath. Here and there were patches of gray in the soil, so light you couldn't really

be sure they were there at all. Over most of the acre there was nothing; the organisms had died.

The trouble with being an optimist is that you get to expect too much. The fact that *anything* could live out here was a miracle of modern bioengineering. I shrugged and turned back the way I had come.

I was almost within sight of the Cat when I felt an itching in the back of my throat. My eyes flicked down at the dials mounted beneath my transparent view screen. The humidity indicator read zero.

Every suit has a wick in the air system through which water circulates, keeping the humidity up. My suit had run out of water. It's a small point; all the same, the tickle I felt meant I might have a case of suit throat. I stepped up my pace.

Suit throat isn't a disease. It's a natural hazard of anyone who breathes processed air. The air bottles on the back of my suit were exposed to Ganymede temperatures. That freezes out the water in them. When the cold air enters my suit and is warmed it has to have a little water vapor added, or my nose and throat soon dry out. A dry throat is a feasting ground for any germs that are hanging around; if you're lucky the outcome is just a throat that stays sore for days.

The Walker was backed up to the way station. I climbed up the ladder and cycled through the narrow lock to the cabin.

"You're in time for the feast," Yuri said.

"Hope I can taste it."

"Why?"

I opened my mouth and pointed. Yuri looked in, turned my head toward the light, looked again. "It is a little red. You should look after it."

I got out the first aid kit and found the anesthetic throat spray. It tasted metallic but it did the job: after a moment it didn't hurt to swallow.

I was surprised at how much Yuri could do with our rations. We had thin slices of chicken in a thick mushroom sauce, lima beans that still had some snap in them, and fried rice. We topped it off with strawberry cream cake and a mug of hot tea.

"My compliments," I said. "That was undoubtedly the best meal within a million miles."

"Some compliment!" Yuri said, smiling. "That means I'm better than the base cafeteria."

"As Zak would say, 'Disregard ye not the smallest honor.' Or something." I got up from the pullout shelf that we used for a table. The room began to revolve. I put out my hand to steady myself.

"Say!" Yuri shouted. He jumped up and grabbed my shoulder. The room settled down again.

"I—I'm okay. A little dizzy."

"You're pale."

"The light is poor in ultraviolet here. I'm losing my suntan."

"It must be more than that."

"You're right. Mind if I go to bed early?"

"Take some medicine. I think you have suit throat."

I grinned weakly. "Maybe it's something I ate." I jerked on the pull ring and my foldout bunk came down. Yuri brought the first aid kit over. I sat on

the bunk taking off my clothes and wondered vaguely where second aid would come from if the first aid failed. I shook my head; the thinking factory had shut down for the night. Yuri handed me a pill and I swallowed it. Then a tablet, which I sucked on. Finally I got between the covers and found myself studying some numbers and instructions that were stenciled on the ceiling of the cabin. Before I could figure out what they meant I fell asleep.

The morning was better, much better. Yuri woke me and gave me a bowl of warm broth. He sat in a deck chair and watched me eat it.

"I must call the base soon," he said.

"Um."

"I have been thinking about what to say."

"Um . . . Oh. You mean about me?"

"Yes."

"Listen, if Captain Vandez thinks I'm really sick he'll scrub the rest of the trip. We'll have to go back."

"So I thought."

"Do me a favor, will you? Don't mention this when you call in. I'm feeling better. I'll be okay."

"Well—"

"Please?"

"All right. I don't want this journey ruined just because you are careless." He slapped his knees and got up. "I will make the call."

"Mighty nice of you," I mumbled. I dozed for a while. I was feeling better, but I was a little weak. I heard Yuri talking to Zak briefly. I ran over the route we would follow that day. The next way station was a respectable distance away and there was only one

sensor package to visit. We would have to spend our time making tracks for the next station, which was just as well, with one crew member on the woozy side.

"Yuri," I said, "check and be sure we got our tanks filled with air and water. It's a long way to the next—"

"Bowles, you may be sick but that doesn't mean you can start ordering me around. I will get us there."

I rolled over and tried to go to sleep. I heard Yuri suit up and go out. A little later there were two faint *thunks* as the hoses disconnected from the way station. Then Yuri came back in, unsuited and sat down in the driver's chair.

The Cat lurched forward and then settled down into a steady pace. I decided to stop worrying and let Yuri handle things for a while. I was feeling better every minute, but another forty winks wouldn't do any harm. I let the gentle swaying of the Walker rock me to sleep.

I woke around noon; I must have been more tired than I thought. Yuri tossed me a self-heating can of corned beef; I opened it and devoured the contents immediately.

I passed the next hour or so reading a novel. Or rather, I tried. I dozed off and woke up in midafternoon. There was a lot of sedative in that medicine.

I got up, pulled on my coveralls and walked over to the control board. "Walked" isn't quite the right word—with my bunk and the table down, the Cat resembled a roomy telephone booth.

I sat down next to Yuri. We were making good time across a flat, black plain. There was an inch or so of top-

soil—dust, really—that puffed up around the Cat's feet as they stepped. The dust comes from the cycle of freezing and thawing of ammonia ice caught in the boulders. The process gradually fractures the Ganymede rock, breaking it down from pebbles to shard to BB shot to dust. In a century or so somebody will grow wheat in the stuff.

Yuri talked some about our route; he had already plotted out the course for tomorrow. I admired the view—Europa's shadow was a tiny dot on Jupiter's pink bands—and kept a casual eye on the control board.

Then something registered.

"Hey!" I said. "What's wrong with the air meter?"

Yuri glanced at it and did a double-take. "It is a little low."

"Low, lummock? It's nearly reading zero!"

"I—"

"Have you looked at this meter at all today?"

"I checked it this morning."

"Idiot! Never take your eyes off it."

"I cannot understand how we could be low on air." He kept his eyes on his driving.

"You don't? I'll tell you how—you hooked up the hoses wrong at that way station. Probably you forgot to pull the manual override while you were outside. Without that the air tanks won't fill up to top pressure."

Yuri frowned and hesitated. "That's right, isn't it?" I said.

He nodded. "I suppose I did."

I took a careful reading of the air left in the tanks and scrawled some numbers on a clip board.

"How does it compute?" Yuri said.
"We won't make it to the next way station."

"What about our suits? They might have enough air left—"

"Did you recharge yours when you came back in?"

"No."

"I didn't either."

"Well, we can try."

"Sure, sure." I read my suit meter. Yun's suit had less than mine and together they didn't make up the difference. I juggled the figures around on the clipboard, but there was no way around it: we were in deep trouble.

Yuri had stepped up the Walker's pace. We bounced over the slabs of black rock and into a broad valley. I told him my conclusion.

"I suppose you are right," he said after a moment. "We cannot reach the next way station. We should call the base and ask for assistance."

"I don't like to do it."

"Why? We must."

"Do you realize what Captain Vandez has to do to get us out of this scrape? Ganymede hasn't got enough atmosphere to support a plane with wings, you know—the base has to use their ion-rocket flyer to get around. Somebody will have to come out and drop air tanks down to us on a remote-controlled rocket pack."

"I see." Yuri gave me a guarded look. "It would not sit well with Commander Aarons, would it?"

"That's not what I was talking about. The point is that people will have to go to a lot of trouble to correct a dumb mistake."

Yuri was silent. The Walker rocked

on over the broken ground.

"You may not like it," he said, "but I do not intend to die out here." He reached for the radio, turned it on and picked up the microphone.

"Wait," I said. "I may . . ."

"Yah?"

"Let's see that map." I studied it for several minutes. I pointed out a spot to Yuri and said, "There, see that gully that runs off this valley?"

"Sure. So what?"

I drew a straight line from the gully through the hills to the next broad plain. The line ran through a red dot on the other side of the hills. "That's a way station, that dot. I've been there before; we're slated to check it in two days, on our way back. But I can reach it by foot from that gully, by hiking over the hills. It's only seven kilometers."

"You couldn't make it."

I worried over the map some more. A few minutes later I said, "I can do it. There is a series of stream beds I can follow most of the distance; that'll cut out a lot of climbing." I worked the calculator. "Even allowing for the extra exertion, our oxy will last."

Yuri shrugged. "Okay, boy scout. Just so you leave me enough to cover the time you're gone, plus some extra so a rocket from the base can reach me if you crap out."

"Why don't you walk yourself?"

"I'm in favor of calling the base right now. But I'll wait out your scheme if you want, right here, without budging an inch. I don't like risks."

"There's a fair chance that rocket plane might foul up and crash, too. At least my way we can do something to

help ourselves and not sit around on our hands waiting for assistance."

"Those are my terms, Bowles. If you go, you go alone."

I grimaced. It was a lousy, chicken-shit situation with no good solutions.

"Look, Yuri . . ." I began.

"Aw, stuff it, Bowles. I am not going to try any crazy scheme just for the sake of your pride."

"*Pride?*" I said between clenched teeth.

"Sure." Yuri leaned back casually in his chair. "Look, I don't want to get in bad with Aarons, right? Okay, you don't think that's a legitimate motive; I think you're blind. You and I want the same thing, Bowles, but *you won't admit it.*"

"I don't pal around with those technicians, hoping they'll give Vandez a good word about me," I said triumphantly.

"No, you don't. So what? That just means you're dumber than you look."

"If you—"

"Very good, Bowles, very good," Yuri said, leaning on the control board. "You have moved the conversation completely away from what I was saying."

"Wha—what do you mean?" I said suspiciously.

"We want the same thing, for Aarons to have a good opinion of us. Me, I want it because it means I can stay out here."

"Well, so do I. But—"

"No. Pride, Bowles, that's why you want it. You have absolutely got to be in first place. You're John Bowles, mamma's little boy. Always got to win. Hell, look what you do on vacation—

run around doing the dog work for Ganymede base."

"I do it because I like it."

Yuri's faint smile disappeared. "You know, you're right. I don't understand you kind of people. You don't have any doubts about anything, do you? The world is all laid out for you." He looked at me carefully. "And you're such a smart joker, you don't even know why you're that way."

"Listen, Sagdaeff—"

"No, you listen. Your damned pride won't let you look like a failure in front of Vandez, so you want to risk your neck to avoid it. Okay, but count me out."

"You son of a bitch—"

"No melodramatics, kid. Those are my terms. Come on, we're wasting oxygen. What's going to win, common sense? Or pride?"

I had been getting madder and madder. I didn't stop to think that anger was a sure sign that he had hit me in a sensitive spot.

I didn't stop for anything. I pulled my usual trick: I acted impulsively. I accepted his terms.

The cold seeped into my legs. Snow, gray rock, black sky—and always the thin rasp of my breath, throat raw from coughing. I stumbled along sluggishly. *Pride*. The anger boiled up in me again and I quickened my pace. *Pride, he said*. And it hurt, it hurt so badly that I pounded my boots into the gravel and pushed ahead, thinking over and over that I would win, I would win, and show Yuri he was wrong, that he was lazy and stupid and I had saved us both, saved us without Captain Vandez

ever knowing. Just Yuri would know, only Yuri, and he would have to admit I was right after all, to take back what he said—the gravel slipped under my boot and I nearly lost my balance. A small landslide eroded away the footing I had and I couldn't stop to rest—I had to keep moving up the slope, even though my breath was ragged and I was sweating.

Seven kilometers, yeah. A short hop. I felt like it had been seven years since I left the Cat, and still I hadn't started down the incline onto the plain.

Poor dumb kid, I thought to myself, I've even lost count. That was Bad Break #4 back there, wasn't it? Three strikes and you're out; what about four Bad Breaks?

I struggled up the side of what seemed to be a sand dune, my breath tearing at my throat. The stream bed shown on my map had vanished and I was pushing on over broken, hilly terrain. Every fifteen minutes I checked in with Yuri, but I was damned if I was going to ask him for help. Pride goeth before a fall, ha ha. And my throat hurt, my nose dribbled, my eyes stung. Everything tasted oily—air, rations, water.

The stones and sand gritted against my boots, slipping away, robbing me of balance and speed. I toiled up the incline, angling across. A few boulders, buried in the silt, helped; I could pull myself up with them for support. The gray line that was the top drew gradually nearer as I lurched along, cursing my own stupidity. It promised nothing—a few random rocks were perched there, sheltering patches of snow.

Then I reached it.

Once I reached the plain I could get my bearings. I found the way station. It had plentiful oxygen, and bottles to carry enough back to the Walker. I rested, called Yuri to tell him I was returning, and set off again.

The following several hours were uncomfortable. Yuri knew he had fouled up but he couldn't lose face by coming right out and admitting it. So we sat in silence and I made a show of doing an inventory of the cabin. I talked to Zak during the routine radio call; there was no news.

Yuri stopped the Walker about two miles from the sensor package we had to check out. That was as near as we could get, since the gully leading to it had suffered a landslide. It was late afternoon and I was getting edgy from Yuri's brooding; I suited up and left. The sun was creeping toward the horizon and Jupiter waxed; tomorrow, Wednesday noon, was sundown.

It was an uneventful walk, the package needed only a few routine replacement parts, and Yuri was in better spirits when I got back. In fact, he was almost friendly. He asked me questions about the reclamation of Ganymede—things I thought everybody knew—and talked about his father's part in one of the later Mars expeditions.

"What I cannot understand," he said, "is why ISA is reclaiming Ganymede first. Why not Mars? It's closer to Earth."

"Water."

"My father says they found water, far down."

"Sure, but not enough. Mars has

almost twice the surface area of Ganymede, but the rocks are dried out. The water escaped into space; Mars was warm enough to evaporate it."

"Well, Ganymede hasn't got any liquid water, either."

"Not now, no. But after all this ammonia and methane is processed, there'll be plenty. That's what Mars lacks—these sheets of ice." I made an expansive gesture at the glaciers of frozen water and ammonia we could see in the distance. "Use fusion power on that and someday Ganymede will have an ocean."

"Yah. My father says it is still a pity. Mars has charm, even if it is a desert. He wanted to colonize there. ISA turned the proposal down."

"Come back next century."

"That is something I don't understand. Ganymede's atmosphere will diffuse out into space faster than Mars' did. It will be thinner, as well, and won't hold heat. In a century it will become cold. The system will not work."

"It will, once the cap is put on."

"What cap?"

"I saw a proposal last week, logged into the Can's library. Somebody wants to lay an organic sheet on top of the Ganymede atmosphere, once it's tailored for us to breathe. The sheet would be a natural greenhouse and it would hold the air in, like a balloon."

"That sounds crazy. What keeps it up?"

"The atmosphere. The sheet just sits on top. You can even cut a hole in it, twenty miles on a side, to let ships through."

"It still sounds crazy."

"Maybe it is, right now. But give us a century and we can do it."

"If I could live that long I would make a wager on the point."

"Don't be so sure you won't. A century is a long time for the human race. A hundred years ago the Germans had built the first respectable rocket. People thought space travel was something for comic strips. My great grandfather worked on a farm—I'm living in the Can, orbiting Jupiter. And men will stay out here until Ganymede is ready to live on."

"I suppose you're right," Yuri said. Then he smiled at me in a way I didn't like. "Or at least, *some* of us are going to stay out here."

CHAPTER 7

THE REST OF THE TRIP went easier. Yuri stayed quiet and I did a lot of hiking out to visit sensor packages. By sundown Wednesday we were heading south, angling back toward the base. I still enjoyed the scenery—some of those valleys are beautiful and spooky all at once—but after the business with the air tanks I didn't feel particularly comfortable with Yuri.

We shambled into the base late Thursday night, a little behind schedule and tired. Zak was standing outside waiting for us, along with the mechanic who would check out the Cat to be sure we hadn't hot-rodded her to death. Mechanics are like mother hens, clunking over their machines, and this one poked around for half an hour before he gave us an okay. Neither Yuri nor I mentioned the problem with the air tanks; someone would wonder

why we hadn't reported it earlier. I had already had enough red tape for one day.

I told Zak about it, though, over supper.

"It saddens me, Johnny boy, to see you picking up bad habits. The rule book plainly says that such little dramas should be reported." He gave me an appraising look. "On the other hand, creative rule-bending is an art form we must all learn, sooner or later."

"Looking back on it," I said, "I'm not so sure I did the right thing."

"Look upon it as a valuable learning experience," Zak said grandly.

"My conscience bothers me."

"Oh? What's it feel like? I had mine taken out, along with my appendix."

"I suspected as much."

"I think I can lay your pangs to rest, Johnny. Yuri reported the whole thing, after the fact."

"Huh?"

"I was on radio watch, remember? Let me consult the Encyclopedia of All Knowledge—" he picked up the binder lying on the bench next to him—"and all will be clear."

"What's that?"

"My diary. You can't read upside down writing, I take it? Good, my secrets are safe." He opened the binder and ran a finger along to the right entry. "Ah, yes. You called me, said nothing worth immortalizing with a note. Um. Then Yuri called—said you were outside, visiting a sensor package—and asked to speak to Captain Vandez. On a private line." He raised an eyebrow. "Interesting."

"So Yuri reported it anyway. Good."

I didn't think he had it in him."

"Nor I."

"He's not such a bad guy, after all."

"Um. No comment."

"Cynic."

"Um."

I managed to get in a morning's skiing before the *Sagan* lifted off. It was fun to feel a chill wind whipping by my ears, lean into a turn and slash a trail across a hillside. Everybody was out in the dome for a last bit of exercise and we all got into an immense snowball fight an hour before liftoff. After I caught two in a row down the back of my collar I surrendered and went back to pack.

The *Sagan* had been loading the whole while we were on Ganymede. Her primary job is to haul water extracted from the ammonia ice; the Can lives off that water. Even with recycling of wastes some water isn't worth the trouble to retain, and must be replaced. The Can keeps large reserves stored in a complex pipe system that runs through the floors and walls; all that mass helps stabilize the Can's rotation, too, and shield against high energy radiation.

Liftoff was uneventful; by the time Captain Vandez let us out of our seats Ganymede was shrinking rapidly and neither Zak nor I could make out much surface detail through the methane haze. We had to content ourselves with a good view of the outer moons of Jupiter. Callisto, the next moon out from Ganymede, looked as big as Luna but was dull and gray. It's covered with black rock; nobody has figured out yet

why it didn't get a big dollop of ammonia ice like the other moons.

We could see some of the other moons, too, but they are just much smaller editions of Ganymede without atmospheres. There are thirty nine Jovian moons bigger than ten kilometers across and lots smaller than that. By the time the early expeditions reached Number Eight they were tired of the whole business and nobody has even landed on the last four relatively large ones. No reason to—anybody who cares can see them close up if he can get time on the Lab's big telescope, the Far Eye.

I woke up just before the *Sagan* docked at the Lab. Zak had fallen asleep in the middle of composing a poem and gave every appearance of being no longer in the land of the living. He had sprawled out over two seats and was teetering on the edge, about to fall into the aisle. I elbowed him awake and we queued up at the air lock.

The *Sagan* was moored above the top of the Can. When I came out of the lock I was looking down the bore of an enormous gun—or at least, that's the way it looked. I was faced down, looking through the hollow center section of the Can—the ship bay. I could see red and white stars out the other end, and the dark outlines of shuttles and skimmers floating around the axial cylinder, being serviced.

I hooked on to a throw line and scooted across to the personnel lock, the same one we'd come out nine days before. The week on Ganymede had given me a touch of groundhog legs—a sense that there really ought to be an

up and down, so that I kept looking around for a reference. Going through the personnel lock fouled me up even further, because for a moment I was convinced that I was falling down it. Don't ask me to explain why; it's just a reflex, like sneezing. Zak felt it, too; he started spinning his arms for balance the second he came through the lock, which just made him tumble until he stopped it.

We followed the line through a series of tubes and ended up in a big room so long the curvature hid the heads of people standing against the far wall. We were at about one tenth gee there so I felt back to normal. The human animal is a funny thing; I hadn't minded zero-gee in the *Sagan* coming back, but the quick change from ship to the personnel lock upset my inner ear's sense of rightness. I guess it's too much to expect men, who evolved chasing wildebeests in Africa, to tumble around in space without batting an eyelash.

"Ah, gentlemen. 'And the hunter, home from the hill.' Welcome back."

I turned and found Ishi smiling at me.

"The first thing he does is quote a rival poet to me," Zak said, and pumped Ishi's hand when I was finished with it.

"You look thinner," I said. "Working too hard?"

"What's new?" Zak said.

"Not much. We lost another bathyscaphe-type probe in Jupiter's atmosphere, but it found nothing new before it failed. And no, John, there has been little work for me. I do have to go out

tonight to correct a drifting setting in a satellite, however."

"Tonight? But that's the amateur hour," I said.

"Correct. I understand you will play guitar. I regret missing it."

"Don't be," Zak said. "I've heard him practice."

"Oh, a music critic, too?"

"Come along, Ishi, such louts don't recognize a renaissance man when they see one."

"Wait, we have to get our luggage."

The panel behind me slid aside and two men struggled in with a net of baggage. They unslipped a knot and the cases tumbled slowly out; in a tenth-gee field nothing could be damaged. I located our bags near the top of the stack and started to reach for them.

"You boys are standing directly in front of my suitcases," a familiar voice said.

"These are ours, lady," Zak said.

"Don't you think I know my own! Captain! Captain Vandez!"

"The Captain is not here, ma'm," a man said.

"I demand—"

"Here's your case, Zak," I said. "Ishi—catch!" I threw him one of mine and snatched up Zak's other bag.

"Don't let them get away. They have one of my—"

We circled around the pile and I scooped up my second case. The man was talking to her as we went out the door.

"Good grief," Zak said, "who is that woman?"

"Mrs. Schloffski," Ishi said. "It is rumored that her husband was ap-

pointed to the Laboratory through political influence."

"The ISA has a lot to answer for," I said.

"John!" My father had just come out of a side corridor. Jenny was with him. We all shook hands and I kissed Jenny. She held the kiss a little longer than I wanted to in public, but it was top quality goods, all the same.

"I've got to go pamper a shuttle right now," Jenny said, an arm around me, "but when I come off my shift . . ."

"Fine," I said. "I'll even give you preference over my guitar. I still have some practicing to do before tonight."

"Well," Jenny said, wrinkling her nose, "I suppose I will have to take what I can get." She gave me a peck on the cheek and walked away.

"What next?" Zak said. "Now that John here has beaten off the hordes of panting women that follow him everywhere, what say we snag a milkshake and discuss the adventures of our brave heroes amid the terrible snows of Ganymede?"

"I'm afraid not," Dad said. "John has to go home."

"Oh," Ishi and Zak said together.

"Well, next time," Zak finished lamely.

"See you tonight," I said. "Ishi, put our names in for time in the squash court. I'm going to beat you yet."

Ishi smiled and waved goodbye. Dad and I made our way home through the tubes, talking about minor events that had happened in Monitoring while I was away. They were registering more and more of the unusual debris from outside Jupiter's moon system. The chunks of rock usually spiraled in and

entered Jupiter's atmosphere near the poles.

"Could it be a meteor shower from the asteroid belt?" I said.

"That is one theory," Dad said. He seemed distracted, and didn't add anything to that.

Mom wasn't there when we got home; Dad said she was in Hydroponics, working late. I unpacked, crammed my gear into the cubbyholes the Lab calls closets, and came back out to the living room. Dad was sitting at the dining table; his hands were clasped together.

"Sit down, John."

I did.

"I talked to Commander Aarons about you yesterday. Captain Vandez mentioned you in his weekly report from Ganymede."

"Oh?"

"Yes. I must admit it surprised me. I did not think you would make such an error."

"Huh?"

"I'm talking about the trouble you and Yuri had."

"What trouble?"

Dad grimaced. "The air hose. Captain Vandez reported that you failed to attach it properly, did not notice the mistake, and almost killed both yourself and Yuri. And that you would not report the incident yourself—Yuri had to do it."

"What!"

"It was a good thing Yuri managed to get to that way station. I realize the basic idea was yours, and Yuri reported that, which was a good thing. It made you look better in Captain Vandez's eyes, so that he did not reprimand you

in person. If Yuri had not gotten to that station in time, the Captain would have had to send a ship out to save you. Then it would have gone very badly for you. As things stand—”

“Dad!”

“What?”

“That’s a bunch of lies.”

“I am simply repeating what Commander—”

“I know. But it’s all wrong. I didn’t foul up the air hose. Yuri did it.”

“That isn’t the way it was reported.”

“But that’s the way it was. That goon didn’t—”

“Hummm. Wait a moment. Can you prove any of this?”

“Prove—? Well, no, I—”

“Yuri radioed in the report. You—according to Captain Vandez—never mentioned the subject afterward, when you were on the air. He thought you were simply too embarrassed to own up. Captain Vandez said he thought Yuri had been quite fair to you, considering, and he did not regard the matter as too serious.”

“Well, I do,” I said sharply. “Yuri turned in a false report.”

“What really happened?”

I told him. He wondered whether Zak could give any testimony that would back me up. I decided not; I had never said anything over the air that would prove my version of events.

“I hate to say this,” Dad said, “but it appears Yuri has the edge on you. He reported the incident. You did not. Silence on your part is hard to explain.”

“I know. That’s what I get for cutting corners on the regulations.”

“You should have reported in sick in the first place.”

“And I should have blown the whistle on Yuri when he gummed things up. I thought the job was more important than a bunch of rules.”

“The rules are there to insure your safety. All of us are living in a hostile environment. It pays to be careful.”

“I know, I know.” I sighed and leaned on the dining table, my face in my hands.

“Son, don’t take it too hard. I do not believe Commander Aarons considers it to be of overriding importance. It will not weigh too heavily when the decision is made about your staying on at the Lab. I’ll speak to him about the incident, anyway, and give your side of the story. That should count for something.”

“Thanks, Dad.” I looked around. “That’s why Mom’s not here, isn’t it? So you could talk to me.”

He nodded. “And to give you some quiet for your guitar practice. It’s only a couple of hours from now.”

“Right.” I made a weak smile and got up. I went into my room and sat on the foldout bed, resting my guitar on my legs. I practiced series of chords, to limber up my fingers, and then ran through the pieces I planned to play tonight.

Inside, I was still reeling from what Dad had told me. Sure, I was never a bosom buddy of Yuri’s, but this—!

After a while I put the thoughts aside. It didn’t do any good to brood, and there was no point in being depressed during the amateur hour. I could rail against my fate after I was through playing. So I threw my

shoulders back, shook my head to clear it, and played carefully through each piece, looking for errors or places where I allowed my fingers to slur over a passage and make it easier than it should be. If a classical guitarist plays a piece often enough without paying attention to what he's doing, he gets sloppy. The guitarist doesn't see the difference; the audience can. Segovia I'm not, but anything I play is going to be the best I can do.

Dad stuck his head in to see if I wanted supper; I shook my head. He came back an hour later to remind me that it was time to dress. I put on the only formal clothes I have: a black suit with broad lapels, cut back severely in the style of five years ago. Mom had let out the seams as much as possible but the inevitable had caught up with me; the short pants pinched, my stockings showed stretches and the shoulders were so tight I thought I would lose blood circulation in my arms. It didn't matter much that the suit was at least five years out of fashion on Earth—everybody else in the Lab was in the same boat, and anyway I liked the sequins on the cutaway lapels of the jacket.

Dad and I walked to the central auditorium, me lugging my guitar case. People were already filling the bowl of seats. Jenny was waiting outside. She squeezed my hand and wished me good luck and I made small talk. I didn't want to tell anybody about the Ganymede trouble and at the same time I couldn't think of anything else, so I must have sounded like a dodo. After a few minutes of monosyllables from

me Jenny gave up and went to find a seat.

Backstage was a hubbub, with people carrying props and sets around, women touching up their makeup and a few trying to learn their lines at the last minute. I found a corner to wait and sat down.

I could hear Commander Aarons introducing the program; his deep voice boomed out over the crowd without need of a microphone. Almost everyone in the Can was there. The auditorium is pretty far inward toward the axis, so gravity there is only a small fraction of Earth gee.

The first act used that fact to advantage: it was a family team I'd watched before, performing ballet feats that would be impossible on Earth. They leaped and whirled and threw each other high in the air. It made you feel light and carefree yourself, just looking at them.

Mr. and Mrs. Bhadrani went on next. She plays tabla while her husband performs on the sitar, an Indian instrument. It was beautiful. Mr. Bhadrani let me fool around with his sitar once and I came away impressed; compared to it the guitar is a kazoo. Mastering the sitar is impossible—men simply devote their lives to it and try to achieve as much as possible. It's not an instrument for a dabbler like me.

A bunch from Maintenance followed. They did an involved skit about how messy the other divisions of the Lab were. The skit ended with everybody being forced to live outside the Can because the interior was crammed with garbage. I suppose it was funny,

(Continued on page 83)

FAT CITY

ROSS ROCKLYNNE

Ross Rocklynne's last appearance here was his "Moon Trash," in our January, 1970 issue. Now, after too long an absence, he returns with a story which, in light of current headlines and the statement of a major government figure that we aren't paying enough for our food, is perhaps less far-fetched than might at first appear . . .

Illustrated by DAVE COCKRUM

The ultimate war may be that between the fats and the thins.

—Bob Considine

MR. BIGGERS WADDLED to the desk, not aware that he was being watched by two Thins.

He said in a whisper, "They've cleaned them all out?"

The desk clerk nodded.

"The Super-Market Police have driven them back through the Fat dumps to Thinland, except for a few stragglers who may be in hiding."

"Will there be—?"

"Enough Food for Dinner? Oh my yes." The clerk licked a chubby forefinger as he rapidly turned the pages of the Food Inventory. "We beat them back, all right, before they could break down the Vaults. They did run off with the Chef, though. And a wagon of Apple Pies."

Mr. Biggers winced. "I know," the clerk nodded, laying his hand on his Stomach. "The sharp pains. The nervousness. Goodness! Who knows where they'll strike next?"

"The Council should do something," Mr. Biggers muttered.

Mr. Biggers knew all the Councilmen. He also knew the Mayor. All were Fats. They legislated Food to the Refrigerators it belonged in. After all, were the Fats not to get Enough Food, the structure of society would fall apart. Just watch what would happen if the Thins were successful in forming the majority party! They had existed on the Leavings for so long they wouldn't know how to legislate Vegetables, Fruits, and Meats, let alone Pies, Cakes, Whipped Cream, Double Rich Malted, or even Plum Pudding. Only the Fats understood how to administer in these areas.

It was a severe blow that the Thins had captured the hotel's Chef. The Thins would keep him as a hostage for Eggs, Cream, and T-bone steaks. Perhaps they had worse crimes in mind. For instance, they might force the Chef to Cook for them.

What was it the Thins actually wanted? Mr. Biggers had it on reliable authority that Scraps, Leftovers, and

Leavings were fully as nutritious as First Helpings. Further, Non-Fat Milk, the regular Milk drink of the Thins, was rich with irradiation, and never out of the Refrigerator. These things being true, it would appear that what the Thins actually wanted was to be Fat. And that was what the Food War was all about.

Mr. Biggers took the key from the clerk and went to his own apartment. He was panting heavily from the walk down the hall from the elevator, and therefore did not hear the scurries on the other side of the door. He unlocked the door, placing his Stomach against it and thereby shoving it open. He waddled into the apartment. He saw that the Kitchen light was on. Instantly, he knew he was in danger.

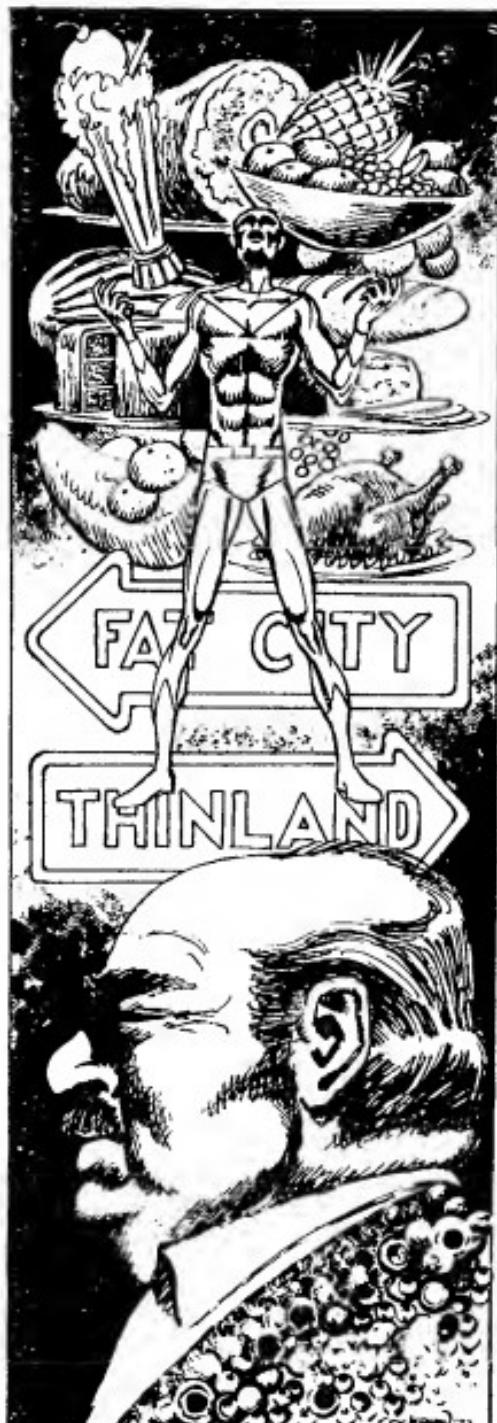
His agitated effort to wheel his circular body back toward the door only brought him face to face with a gun-carrying Thin.

The Thin was angular of body, sunken of cheek, and Hungry. He would not hesitate to put a bullet through Mr. Biggers' Stomach, since he didn't have one himself.

"Hold it, Mr. Big," a most amiable voice said behind him. The voice came in muffled form from around a Sandwich. Mr. Biggers closed his eyes in some pain. He had walked into a trap. What caused the real pain was that he of the cheerful though muffled voice was eating his Food.

"What—what do you men want?" he asked slowly, still facing the Thin's gun. "This, you know, is an outrage. You've—you've been in my Refrigerator."

"Righto," the amiable one said.



"Mmm. Most delectable, and right out of one of your own Super-Markets."

"My Super-Markets?"

"Oh, don't try to hide your identity, Mr. Big. You own nine-tenths of the Super-Markets in the City."

Mr. Biggers turned away from the gun, and found himself observing a blond young Thin who somehow had done very well on Scraps, Leftovers, and Leavings. He even looked as if he may have had a few Banana Splits in his day. He filled out his checkered shirt admirably, and it was not a shirt which had been salvaged from the Fat Dumps. Curly blond hair fell in ringlets over his ears and forehead. He glowed with health. He was one of those plump Thins who belonged to the ruling class.

Mr. Biggers said dismally, "You're eating my Cheese, young man. With Mayonnaise."

The Thin nodded agreeably at Mr. Biggers, finished off the Sandwich, licked his fingers appreciatively, sat down at the Dining Room Table and put his feet up.

"Keep that Stomach blaster on him, Starvy," he told the gun-carrying Thin, "and I'll give you a Piece of Apple Pie after Dinner." He lighted a cigar from Mr. Biggers' humidor while Mr. Biggers watched depressively. "Now," he said, breezily blowing out fumes, "we can get down to business."

He flicked ashes, slyly centering his gaze on Mr. Biggers' Stomach.

"As you might suspect," he said, "we've been keeping an eye on you, which wasn't too difficult. Let me identify myself. If I had a photo of the Big Cheeses in the Thin Underground, you'd find me third from the left."

Mr. Biggers swallowed. "I've—I've seen that photo." He peered, then drew back in some dismay. "I've seen *you*, sir. You were in Fatland for the Elections last year, you and the rest of your cohorts pictured on that Election poster. It's disgraceful, absolutely disgraceful, the way some of you Thins try to pass the line into Fatland. And now you've formed an Underground!"

He of the blond curls seemed no longer amiable. His feet came down to the floor.

"We've always been an Underground," he said. "As long as we've been a political party. We knew you Fats would never allow us into the Council. And you certainly would not allow anything but a mock election."

"Now, Mr. Big, I want you to understand we are not playing games. We are terrorists."

Mr. Biggers had to sit down. He found a chair and sat with his heavy jowls resting on his chest. He breathed wheezily, close to tears. His dreams of a Fat happy life were in considerable danger.

"Money?" he said hopefully.

The Thin seemed to sniff. "Money doesn't buy First Helpings. Not if you're a Thin."

"My credit cards?"

"A credit card won't buy our children Jelly-filled Doughnuts. It won't bring Lamb Chops or Fresh Ground Round to the Meat Departments of our Super-Markets. It won't bring unwilted Lettuce or Celery, or Whole Potatoes to our Vegetable Bins."

Smoke shot from his mouth. He was on his feet.

"It won't give us Snack Bars or

Hamburger Stands on street corners. It won't give us Refreshment booths at the local theatre where we can buy Popcorn or Fattening Soft Drinks between features."

His cigar was forgotten. He ground it out in an ash tray.

"No," he muttered darkly. "You don't get off easy trying to buy your way free. We're playing for much bigger stakes than that. We've got our wives to think about, our children, our whole Thin society. There's only one thing we want from you, Mr. Big. Then you can go free. We want the locations of the Secret Super-Markets."

Far from feeling shock at this request, Mr. Big felt a lessening of his tension. He allowed himself to show a rueful smile. He even could have laughed a little at the absurdity of the request.

"You don't know what you're asking," he said. "Even granting that I knew these locations, and yielded to your threats, thus betraying my Party, what good would the information do you? None at all."

He found himself gaining considerably in courage. These Thins, members of the Thin Underground though they might be, were exposing a weakness: they obviously did not understand that the Secret Super-Markets were not about to be raided. They were too well protected, by devious means which included weaponry.

"Starvy," said the blond Thin, looking past Mr. Biggers. A gun poked immediately into Mr. Biggers back, forcing him to his feet, where he balanced precariously. The curly-haired one, flat of eye, stuck an index finger

into Mr. Biggers' Stomach so that he was impaled both front and rear.

The flat blue eyes were inches away. "We aren't fooling, Mr. Big. You *are* the majority stockholder in the Secret Super-Markets. You *do* know the locations of those Markets. Isn't that true?"

"No," said Mr. Biggers. In a rare burst of courage, he simply ignored both men, sliding away from his pinned position to lean corpulently against the Dining Room Table. From here, he could see into the Kitchen. The Refrigerator door was open, but Mr. Biggers was not Hungry; the menace was too great. He said carefully,

"Gentlemen, gentlemen, I am really afraid you do not appreciate the complexity of the problems you face.

"You seem to think that control of the Secret Super-Markets would give you the balance of political power in the City. Actually no, for you would merely harm the vital ecological balance of our Thin-Fat society, not add to your own well-being. The moment the Secret Super-Markets are invaded by unauthorized Shoppers, in that moment Spoilage begins in the Meat and Vegetable department, for Refrigeration automatically ceases.

"Further, the Secret Security Guards are always ready for such an emergency. And the trucking concerns who bring Food from the Canneries, from the Secret Produce Markets, from the upper level chemical Farms, automatically cease delivery. The Teamsters' Union, as you know, is administered by Fats; they wouldn't let a Thin wear a union button. You're beaten before you start, my lad. Now why don't you go home to your wife and be satisfied

with Leavings, Leftovers, Skim Milk, and an occasional Nutritious Scrap? After all, we Fats are the majority Party."

His voice rolled. He smiled, sincerely, earnestly. "We're all in this together, you know, working side by side, doing our best to survive in a world we never made where precious Food must be distributed in a manner which, I admit, at times may seem a trifle unfair."

Mr. Biggers had them on the run. He was sure of it. They were standing there, just standing there, looking first at him, and then at each other. The politician in Mr. Biggers was never in better form.

"After all," he said unctuously, "civic pride: that's the thing. For all of us, Fats and Thins alike, to feel a civic unity, a sense of purpose where someday we'll all have Enough to Eat."

The blond Thin scratched at his curls and made a face. "Wow," he said. The other Thin, Starvy by name, raised his gun hopefully. His companion pushed it down.

"Mr. Big," he said, "how'd you like to go Shopping?"

Mr. Biggers was shaken. "Shopping? I've told you—"

"Oh, don't worry. Not at one of your Super-Markets, but at one of ours."

The Thins had a rotor parked outside the window. There was enough room, though Mr. Biggers filled the rear compartment. He was again close to tears. Worse, his experience was at last making him Hungry.

The rotor flapped away and swirled into the safety of the clouds, where it

held a course for some minutes. Then it swooped down.

Depressively, Mr. Biggers knew where he was. He was in Thinland. When he stepped out of the rotor, near a Thin Super-Market, on a street as skinny as the culture it served, numerous Thins carrying Shopping Bags stood still and watched him. They neither spoke nor moved. Approvingly, Mr. Biggers noted they had learned to conserve energy.

"This way." They headed into the Super-Market.

"Now here," said his blond captor, "you see the Leavings Department, Ready-to-go."

Mr. Biggers gazed upon Refrigerated shelves of Food that had been sent from the Dinner Tables of the Fats. It was Food that, reasonably enough, had reached the Tables but had been left unfinished.

People were watching him.

Mr. Biggers shifted from one small foot to the other.

He cleared his throat.

"It all looks very Nutritious," he said. "I wouldn't mind enjoying that Shank of Lean Beef myself. And those Mashed Potatoes, running with Left-over Gravy—delicious!"

"It came off somebody else's Table," said his blond captor.

"But irradiated!" protested Mr. Biggers. "Vitamin enriched! Refrigerated immediately! Why, I would say that not one half-hour after we Fats reject a spoonful of Food that it is on its way to these splendid, colorful, attractively appealing bins—"

Something told him it was best to stop. His captors and the quiet Shop-

pers were not at all receptive to these remarks. When they continued silent, he said weakly, "But you have to admit that Scraps are every bit as Nourishing as anything we have on our Tables. Crusts—Carrot and Potato Peelings—these contain the very essences of the vitamins and minerals we all need. And our Fat Food chemists—how they've worked to devise Non-Waste Soups that are Palatable, Nourishing, Satisfying!"

Mr. Biggers gestured wildly at trays upon trays of Scraps, Peelings, Celery and Beet Tops, Orange Rinds, Pre-squeezed Lemon Rinds and Cored Artichokes, not to speak of the plentitude of Refrigerated Leftovers.

"You have Food!" he cried, "and it's healthful Food! What else do you want from us Fats?"

He brought his beringed Fat fingers against his Stomach.

"Look at me!" he implored. "Would you really want to be as I am? Do you think I *like* being Fat? It's detestable—but I was born into a world which needs a Fat majority to keep the economy going. And think of it! For *you* my being Fat is an advantage. Cholesterol, that's the key word. I and the other Fats are taking in almost all the cholesterol in our Food supply. Terribly dangerous. Builds up fatty deposits in the arteries. We die from it. Heart disease. Arteriosclerosis. Embolisms. Gout—oh, dear, the gout we have. Do you, healthy, active, happy Thins even begin to realize the advantages you endure by not having Enough to Eat? Oh, I assure you, I beg you to believe me, I often envy you—envy you and

your beaming health—your smiling and gracious faces—"'

Mr. Biggers' excited if not exactly accurate remarks stopped when a slat of a woman carrying a child stepped forward.

She raised her fist.

"Just one Ice Cream Cone, triple dip size, is all I ask," she cried.

An ironing board of a man stepped forward.

"All my life," he said, "I've dreamed of Chocolate Eclairs! They're all in Fatland."

Mr. Biggers felt a jelly-like quiver inside him. He was willing to die for his Party, but the mention of Chocolate Eclairs!

"I'm getting terribly Hungry," he thought weakly. "How much longer must I put up with this impossible fantasy?"

He looked about the Super-Market. He was used to the Secret Super-Markets and their bulging shelves and bins. He was used to whole Vegetables, not these twice-cooked travesties of Spinach, Squash, String-beans and so on down the whole dismal list. He was used to luscious red Meat creamy with thick layers and striations of Fat. He was used to two-quart jugs of Whole Milk, not this washed-out Non-Fat liquid the Thins drank.

But here he was, Hungry, and getting Hungrier, and these Thins were surrounding him, screaming. One woman struck out at him with her half-loaded Shopping Bag. Mr. Biggers refused to spare himself.

The Shopping Bag struck him in the face. Haughtily, he held his ground. A man plunged his fist at Mr. Biggers'

Stomach. Mr. Biggers' simply stood still, in contempt. The man walked away, nursing his fist.

Mr. Biggers shouted, "Go ahead, lynch me. Kill me if you will. I have no fear of death. We Fats are cheerful, happy, laughing always. Such is our heritage. And we are frightened by nothing. Rest assured you'd never learn the locations of the Secret Super-Markets, even if I knew them."

Mr. Biggers' blond captor laughed suddenly.

"That's enough," he said to the enraged shoppers. He moved swiftly from his somewhat indulgent stance, and with two plump Thins who came forward at his signal the crowd was brushed aside. "Okay, Mr. Big. Come on now. We bring a Fat in now and then to help these Thins work off some steam. But we never let it go so far as lynching. Anyway, you're too valuable for that."

MRR. BIGGERS STUMBLED along the narrow streets, panting. They left a short moving walkway at a street very busily populated with very skinny people pushing stolen Super-Market Carts. These were laden with disards.

They were in that twilight zone between Thinland and Flatland.

Here it was that the Thins were given access to the Fat dumps. Mr. Biggers himself was accustomed to throwing away even possessions that were virtually new. All so that the Thins might enjoy some of the luxuries of life. Mr. Biggers was indignant again. Give them an inch—

"All right, take him inside."

Mr. Biggers' captors crowded behind

him, forcing him into a badly lighted hall. It was a large, echoing hall, and filled with people. Gasping in sudden alarm, Mr. Biggers held back.

The people! The Fats! Now he knew something had gone terribly wrong, not only in his own life, but in Fatland itself.

"Mr. Big," the murmur came. "They got him, too."

They had everybody. Everybody of any importance who knew anything about the Secret Super-Markets. There was the Chief of the Security Guards who was responsible for the defense of the Markets in case of a Thin raid. All of his officials were here. There was the manager of the Secret Produce Markets, of the Chemical Farms, of the Canneries, and all of their direct subordinates. There was the entire group of electronic experts who manned and serviced the Emergency Spoilage Works. And besides these were all the City Councilmen, and dozens of others in the top echelons of City government.

And to top it off, the worst blow of all, there was big, fat, happy Joe Pufupia, President of the Teamsters' Union, and Mr. Biggers' friend from years and years back.

Droplets of sweat exuded from Mr. Biggers' face. Suddenly inspired, he broke away from the Thins behind him and waddled at a half-run toward the huddled groups of Fats. His arms were waving wildly.

"Don't let them break you," he cried. "You know what they're after. We'll die first, won't we? Of course we will. We're all brave men."

The Fats shifted uncomfortably on their feet.

Big, Fat, happy Joe Puffupia looked unhappily at the floor.

Mr. Biggers slowed to a walk, a chill striking at his heart. Everything seemed suddenly very grim. At this moment, the room darkened, most of the light shifting to one end of the hall.

"Gentlemen, gentlemen," Mr. Biggers' blond captor was calling out in rather sly tones. "It's Dinner time."

Mr. Biggers could hardly help himself. He and all the assembled Fats revolved as if on a common axle to face the brilliantly lighted Banquet Table. The invitation from their slyly smiling host was more than dignity could overcome. In a mass, Fats scrambled, panting and puffing, toward the Table which was seen to be laid with bright sterling and gleaming ceramic Dinner Plates and Goblets of richest crystal.

It was Mr. Biggers who, exactly ten feet from the table, cut his fast wabble to a crawl and then to a paralytic stillness. Big Joe Puffupia stopped beside him while the other Fats careened past. Ice-water gurgled in Mr. Biggers' Stomach. He was looking at a travesty.

Two Slices of Melba Toast, three Peach Halves, three small beheaded Salmon, a Scoop of Cottage Cheese, a quarter head of Lettuce running with Vinegar, and a Glass filled to the brim with white, repulsive liquid.

"Oh, come, come, gentlemen," their tormentor called. "You, Mr. Big. You, Mr. Puffupia. Join your fellow Fats at this fragrant, pleasant, satisfying Dinner. A full six-hundred and fifty calories, I would say. Then tomorrow morning, you can expect another

four-hundred, with three-hundred for lunch.

"But no In-Between Snacks!"

"Fall to now, gentlemen. Enjoy Dr. Doolittle's Tasty, Nourishing, Filling Ninety-day Wonder Low Calorie Diet!"

The two Fats remained standing as they were, side by side. Mr. Biggers, flushed of face, looked down at his friend, big Joe Puffupia.

"I'll starve first, Puff," he said. "I'll starve! I won't give in!"

"Oh, yes you will, Big," big Joe Puffupia sighed. "They've put us on a Diet, and we have to Eat. But you know what, Big?"

"What's that, Puff?"

"This reminds me of the old days. That was a long time ago. Don't you remember?"

"Remember what, Puff?"

"Remember when we weren't Fat. We haven't always been Fat, you know, oh my no. There was a time when we were Thin! Remember? Think back to when we didn't even live in Fatland?"

Mr. Biggers felt a veritable earthquake in his Stomach. Detestable memories swayed in his brain like tumbling houses. He almost wept. It was true. There was a time when the world was younger, when he and big Joe Puffupia were younger and together fought their way from Thinland to Fatland by the rigorous process of getting More Than Enough to Eat.

Like their blond tormentor at the head of the so-called Banquet Table.

"We'll do it, Puff, we'll do it again," Mr. Biggers said brokenly. "Somehow we'll get back to Fatland."

(Continued on page 129)

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It's all too seldom that a new author bursts onto the scene with a story as solidly powerful as this one—a "hard science" slice of the near-future—but this is Karl Pflock's first professional sale. He tells us that he envisions more stories set in this same milieu—and after you read this one, you'll be looking forward to them as much as we are.

LIFEBOAT

KARL T. PFLOCK

Illustrated by BILLY GRAHAM

THROUGH THE GOLDEN HAZE he could hear a sweet voice calling: "Joe. Joooeee." Telling himself it must be another Joe that the honey-voice wanted, he began to sink back into warm darkness.

"Joe!"

He started awake, blinking and then focusing with a grimace on the nubile blonde in the telephone screen. "Siren to Harpie in an instant. Good morning, wench." He stretched and scratched.

"Good morning yourself, uncouth lout," said the blonde.

He slapped the phone's video pickup key. "Spying on me again. Maggie, I'm beginning to wonder about you."

"Nuts. If you weren't a latent exhibitionist you'd remember to shut it off before beddy-bye. Anyhow, rocket jockey, all's AOK for today's orbital except that you will have to come out in a chopper."

He was halfway to the bathroom door and picking up the rumpled suit he had dropped enroute to bed earlier that morning. "What's up? Strikers out of hand?"

"Yeah, plus a horde of Welfarites that materialized last night. They're stacked up many smelly ranks deep on the access roads and at all our entrances—had to run the gauntlet on the way in."

Joe tossed his paper suit into the bathroom nilator. "What's the beef this time—'Millions for Mars, pennies for the people'?" he quoted, sarcastically.

"That, the election and 'solidarity with the workers against the military-industrial exploiters.' The usual Welfarite 'consistency,'" she growled, "demanding an end to the space program and in the same breath hollering that machinists on the Project be paid more for less work."

"Mmm, glad I didn't go into politics . . . too complicated for my simple mind. Spaceplanes are straightforward and uncomplaining." He dabbed a little more Whiskerway under his nose and turned to set the 'fresher controls.

"Okay, simple mind, I gotta go. The chopper will pick you up at oh-eight-thirty. S'long."

"Roger. Thanks Maggie." The even,

warm glow on his face told him that the depilatory had completed its harvest. He wiped it off, keyed the 'fresher and stepped into the hot needle spray.

Stepping out of the elevator, Joe noted an extra cop at the hotel entrance and his nose caught the acrid smell of nausea gas. He told himself that the Welfare Party crowd must have whooped it up in town before heading out to Hughes.

The doors of the deserted hotel restaurant parted at his approach and he fished a nickel from his jump suit pocket, feeding it to the one-armed bandit that guarded the cash register. This was a regular ritual on the morning of a launch. He had a private conviction that so long as the machine failed to give him a jackpot his luck in space would hold—something to do with opposites attracting. The assorted fruits and jackpot symbols whirled past and then, one-by-one, three cherries ka-chunked into line. The machine spit out five nickels.

"Generous this morning, ain't it, Captain Bates?" As she spoke, the corpulent lady gave a finishing swipe to the table she was cleaning in the booth opposite the slot machine.

"As always, Mrs. Searle—but never a jackpot," he said, sitting down in the booth.

"It's the way of the world," she laughed. "What will it be this fine morning—your usual?"

"No . . . make it a ham omelette, couple dozen silver dollar hot cakes, coffee and a huge glass of orange juice. I've got to subsist on unreasonable



facsimiles of food for the next four days." He made a face.

Smiling, she finished writing his order and turned away. Joe inserted his credit card in the booth's entertainment console and keyed a news station. The machine buzzed, reminding him to remove the card, and the face of the local pundit materialized on the fifteen centimeter screen.

"Good morning, ladies and gents, this is Larry Logan with KNEV-TV's 'The World: Now!' This morning's news and views brought to you by, Acapulco Golds, 'the only way to go to pot!' Now available in the New Strike-A-Light Pack!

"First a look at Las Vegas weather for today: Mostly sunny and hot . . ."

The orange juice arrived. Joe mentally shut off Larry Logan and concentrated on the juice, downing it chug-a-lug fashion.

When next Logan entered Joe's consciousness, it was in parallel with coffee. ". . . continuing constitutional crisis. National Social Democratic Welfare Party presidential candidate, Senator Ramsey Sloane, in a press conference last night, expressed regret over the increase in violence which has swept the nation in the wake of last week's abortive presidential election.

"The rioting and terrorist attacks, which spread to our own Hughes Field spaceport last night, have been primarily directed at space related installations and offices of the three other major political parties.

"Sloane, runner-up in the four-way presidential race, said that while such actions were unfortunate, the feelings behind them were justified. Repeating

the essence of his central campaign attack, 'Millions for Mars, pennies for the people,' he said, in his words, '. . . in attacking space program activities, the people are striking at the most obvious and wasteful manifestation of governmental misfeasance.'

"Sloane then issued a call for a show of force by thousands of his supporters in Washington next Wednesday, when the House of Representatives is to determine whether he, or top vote-getter, All-American Party candidate, Edgar Isaiah Snow, will become President. He claimed again that the election had been rigged against the Welfare Party, and said, '. . . only such a mass expression of the popular will can prevent four more years of exploitation by those who would rather galavant around out in sp . . .'"

Joe chopped the OFF key with a vengeance. *Of all the ignorant . . .*

"Temper, temper, Captain. You'll break the machine and then I'll have you riding herd on my nilator for a month," chuckled Mrs. Searle, as she set his breakfast down.

"Sorry. But that sleazy . . ."

Joe was still fretting about know-nothing politicos as he sat in the crew ready room at Hughes, and was therefore only half listening when Chief Pilot Dorance brought up the bomb.

"It was found during initial pre-launch. Not every sophisticated, but it would have done the job." He held up a small grey cube with two wires protruding from it.

Joe, and the three other members of his space shuttle crew were suddenly very attentive. Dorance, perched cross-

legged on a table at the front of the room, went on: "It was stashed just inside an access panel and wired into the orbiter boost engine ignition system. Had we not found it, Joe, you and Bill would have gone out of this world permanently," he shot a glance at Bill, "thereby saving me considerable future headaches." His face retained its usual wooden composure.

"Very funny, boss," said Wilhelmina ("Bill") de Young. She stuck out her tongue.

"Show a little respect, young lady. Being the only rated female on the Project doesn't give you *carte blanche*. Perhaps I should have told Maintenance to leave this little gem installed." He allowed himself a fleeting smile. The pert brunette stuck out her tongue again. Dorance ignored it. "Anyhow, we were fortunate that it was so obvious . . . apparently set up in a rush. However, since this baby may have a twin, you'll be taking up the Gamma vehicle today. Right; any questions?"

"Yeah, Chuck." It was Shorty Evans, the booster pilot, who spoke. "Any idea who planted the pyrotechnics?"

"Nope. Not a clue so far . . . except that it had to be someone with legal access." His face suddenly grew harder and his voice took on an angry edge. "If you're asking for my opinion though, I think Sloane's stinking outfit was behind it. He's got his people, and a lot of folks who don't buy his brand of snake oil, thinking the Project's a big boondoggle, especially since we started expanding Circum-Terra Station into a full-fledged base to support a Mars mission. A spectacular disaster and the manned program would prob-

ably be dead . . . even if Sloane doesn't get the nod next week. Crap . . ." He spit into the wastebasket beside the table.

Standing, he said, "I guess that's . . . oh, we've reversed crew-prep order today: mission profile first and then medical and frisk." A smile flitted across his face, "Doc's caught in the hoopla on the road." He strode from the room.

As he rose to follow his teammates into the briefing room, Joe smiled to himself about the doctor's plight. *Serves the so-and-so right. Considers himself 'Lord High Protector of the Spaceways.' As if any spaceman would risk smoking pot—before a mission anyway—or running it up to C-T. Regulations, phooey!*

In the cockpit of the space plane, *City of Houston*, Joe touched the READY key on the right arm of his acceleration couch; the translucent rectangle glowed green and the word READY appeared in each of the three CRT displays before him. "Have we got 'dupe,' Bill?"

"Roger." She gave him a "thumbs-up" from the right couch.

"Have you got 'ready,' Shorty?"

In the cockpit of the shuttle booster, *Atlas*, Shorty Evans said, "Ready for lift, Skipper."

"Okay, Bill."

"Hughes control, Gamma standing by for lift-off."

"Roger, Gamma. You may initiate launch sequence. Good burn!"

"Roger. Thanks Al. Let'er rip Joe!"

Joe thumbed the LAUNCH key. Air conditioning blowers sighed to a stop, the crew capsule lights dimmed and the

CRT displays announced: LAUNCH INITIATE.

A rumbling roar, muffled at first, like the voice of a great distant waterfall, welled up and rolled across the desert. The whale-like booster heaved into the sky, bearing its smaller space-bound companion upon its back. The roar changed to a cracking, tearing thunder and the rocket arched away to the northeast.

At the vicinity of sixty-one kilometers altitude, *Atlas'* engines had done their job and *City of Houston's* sprang into life.

As the two ships separated, Shorty spoke. "Well, I guess this is where we get off. See y'all next week. Good burn!"

"S'long Shorty," said Joe. "Don't lose all your flight pay in the same joint." A quick scan of the CRTs told him that the cyberpilot was doing its job and that they would be coming up on initial orbital insertion in about three minutes. This would put them into a parking orbit of eighty-three by one hundred-eighty-five kilometers, the first step to Circum-Terra. After a few seconds of free-fall the engines would fire again and circularize their path at apogee altitude. Then they would begin to chase and overtake the space station, racing along three hundred-ninety-one kilometers above Earth.

The engines shut down. They were in orbit, and Joe felt the wonderful liberation of free-fall. "Smooth as silk, Bill. This one is goi . . ."

There was a tremendous blast. The cabin was momentarily flooded with an intense white light and then plunged

into darkness. At the same time, the ship surged forward, her nose pitching downward.

Joe was slammed into his couch harness, something crunched into the side of his head and he felt an intense flash of pain. He thought he heard Bill screaming, and then he heard nothing.

"C'mon, Joe—snap out of it." Bill's voice was labored.

Joe heard her, but her voice was submerged by the throbbing of his head . . . his whole body. He felt as though a giant was standing on his back while he hung on ropes slung under his chest and armpits.

The cold stab of ammonium vapors assaulted his senses and he came around. "What the . . . hell . . . happened?"

Speaking haltingly, Bill answered. "Just after orbital insertion something blew what I'd guess was the after ninety percent of this ship to Kingdom Come. You got zonked by a piece of gear—still a UFO—that came adrift. You've been out for almost ten minutes. Lost a lot of blood but I think I've stopped it for now."

Joe gingerly touched the compress taped near his right temple; it was soaked with blood. "I guess we found Dorance's explosive twin."

"Maybe. Whatever it was, it shut us down completely—no power, no commo, no *anything*." She heaved a long sigh. "The only happy note is that the capsule pressure hull is intact."

"You're sure; what about backup systems?" His brain was still fuzzy, otherwise he would not have asked

such a question; "Bill" de Young was a pro.

"Would I have said so if I wasn't sure . . . sir?"

"Course not . . . sorry, Bill. Damn, this end-over-end we're doing . . . must be pulling two-g's." They hung painfully, face "down," from their couch restraining straps.

"Yeah. The big bang kicked us forward in the pitch mode. Seem to be swinging at about twenty rpm around a rotation axis that's aft a few meters." As she spoke, the blue-white bulge of Earth swept past the conports, followed by a blaze of Sol and the star-streaked blackness of space—and around again. "What now, Skipper?"

Joe rapidly ran over the situation in his mind, sweeping away the cobwebs as he went: *No power means we can't use the capsule for emergency return . . . besides, heat shield might be kaput. Of Houston's two sister ships, only the Cape is operational and she's on return from C-T by now. Even if she could swing by and match, this tumbling act we're doing would make pick-up . . . "We'll have to break out p-suits and Triple-Es,"* he said.

"Bail out?" she said incredulously.

"You got any better ideas?" he said evenly.

"Nope. It's just that it's never been done before . . . 'cept in tests. I've never thought of Triple-Es as anything but a morale factor."

"So? Well, me too . . . but when you're between a rock and a hard place . . .

"Let's get with it," he said, wiping away the trickle of blood that had begun to run into his right eye under

the relentless two-g acceleration.

Getting with it meant casting free of their harnesses, climbing back—"up"—between the acceleration couches and into the airlock to reach the pressure suit storage racks on the after bulkhead.

Releasing his thigh straps, Joe braced his knees against the control console and, with his right hand, opened the harness buckle at his chest. He then withdrew his left arm from the shoulder straps and immediately fell forward, slamming into the CRT screens. His right arm was caught in the harness at the elbow and twisted agonizingly behind him.

He lay for a moment, listening to the sounds of Bill's struggles, and then heaved up on his free arm and worked his arm loose, collapsing against the dead controls.

Breathing hard, he said, "You okay, Bill?"

"Right, Joe. But I wish I'd lost that two kilos I've been promising myself." Her laugh sounded squashed.

"I guarantee you'll sweat it off before we're through today," he snorted.

He was on his back now and lying on the radar-transponder console between their stations. He looked at the airlock door, less than a meter above him. When it opened, it would drop down slightly as the sealing bevels were retracted; then he would have to lift it into the lock and slide it aside.

"Bill, can you reach the door lever from where you are?"

"Yup."

"Good." He rolled over onto his stomach. "When you open it, I'll hike it up with my back and shove it aside."

"Take it easy, Joe; you're in no sh—" "Open it."

She swung the door lever through a one hundred-eighty degree arc. The door dropped open with a grind of tortured metal. Joe heaved up against it, pushing it through the narrow opening. With his right hand he tried to slide it over; it moved slightly and stuck. Up with the right shoulder and push again. Something gave, the door rasped aside, and Joe lurched forward onto all-fours.

Straining to his knees, he said, "I'll climb up first and then give you a hand." Grasping the hatch frame with both hands, he pulled himself to his feet. His legs shook under the strain of twice Earth-normal. Sitting on the edge of the hatch, he swung his legs into the lock, tumbling over as he did so. This left him lying in a heap, half-in-and-half-out of the hatch, gulping in air with great tired gasps.

"Move over, slug; I'm coming up," exhorted Bill.

Joe rolled aside and switched on a self-contained emergency light as he did so. The tiny compartment was bathed in an eerie red glow.

Bill slumped down beside him. "Cozy, aren't we," she panted.

They both silently scanned the airlock. They lay on the forward bulkhead—now the deck—and about two meters above them, against the after bulkhead, stowed in wire mesh cages, were the pressure suits and their life-boats, the Triple-Es. Two of the walls were smooth and featureless, and the rest of the enclosure was formed by the curved hull of the capsule. The circular outer hatch of the lock, to Joe's

right, was set into this arching bulkhead.

Their eyes met, saying silently, *Let's hustle*. Bodies protesting mightily, they horsed the suits and attendant gear from the racks. They had to work in fits and starts, dropping to the deck frequently to rest.

At last, the necessary equipment was assembled and, sitting on the deck, they set about a rapid check of its condition. Doing so, they discussed the bail out. "Even though our drills didn't involve bidding fond farewell to a ship that thinks it's a centrifuge, procedure should be about the same," said Joe.

"Geronimo!" laughed Bill.

"Umm. Might as well take advantage of our tangential velocity too. Wait until the capsule nose points away from the line of flight and then go."

"Hokay, boss-man. My rig's squared away . . . yours?"

"Yeah. It's in better shape than I am . . . fortunately."

They struggled into the meager openings provided between the shoulders of the suits—Joe was certain that a p-suit was intended for use by a two man team, a midget and a standard-size partner. The former put the suit on and the latter wore it.

The two-g pseudo-gravity made their task exhausting, and Joe teetered on the brink of a blackout by the time he had completed the last fastening. Bill spotted this. "You alright, Joe?"

"Yeah . . . sure." His vision blurred and the compartment seemed to go dark momentarily. He shook his head and blinked.

"Take a break. You lost a lot of corpuscles and this—"

"No problem. I'll pop a bennie from my suit store." He fished one from his helmet dispenser.

Bill started to protest, but thought better of it. "Want some help with your 'fish-bowl'?" she asked.

They helped each other don helmets and life support packs. All buttoned up, they checked their suit systems and then Joe exhausted the air from the lock.

Joe leaned over to touch helmets with Bill, kneeling beside him. "Ready to put on your stepping-out clothes?"

"Fine; but why don't you switch on your FM, dum-dum?"

"Huh? Oh, for . . ." They both laughed the uncontrollable laugh of the exhausted until tears mingled with the patina of sweat on their cheeks.

The job of donning the Triple-Es was even more difficult than their previous struggles with the pressure suits. It had to be done standing—it was virtually impossible to sit encased in one of those early p-suits—and they were very, very tired.

The Emergency Evacuation Equipment they were climbing into was the great-great-granddaddy of today's Personal Safety Pod, though the family resemblance is nil. If you have seen the "Pioneers" exhibit at the Von Braun Museum in Nova Circum-Terra, you know just how primitive the Triple-E gear was. Intended for emergency return from low Earth orbit—and barely adequate for that—it was a big plastic bag with a zippered pocket up front to accommodate the astronaut. The rest of the bag was a balloon that was inflated with polyurethane foam, once clear of a dead ship, surrounding

the astronaut on three sides with an insulative barrier of sorts. Bonded to the back of the rig was a ceramoplastic heat shield. Completing the package were a solid fuel retro-rocket, mini-thrusters, an optical alignment sighter and a parachute. All the evacuee had to do was blow up the thing, blip his thrusters to attain the proper re-entry attitude, fire the reto and pray like mad.

"All set?" queried Joe. He got a nod in reply. "Right. You'll go first and I'll follow after thirty seconds . . . don't want to bump heads. Just fall out head first, like a 'chutist—it's all a downhill from there."

Bill gave a slight laugh. "Yeah. I'd prefer the Aspen variety."

Joe turned and undogged the outer door. He pulled it in and slid it aside along the inner curve of the bulkhead. He reeled back from the circular opening, washed by a sudden surge of vertigo. He had looked "down" into the great star-flecked infinity swinging past the ship's nose.

Bill caught his arm and steadied him. "Easy, Joe."

"I'm okay. Just took a quick look at the first step; woof! . . . makes you feel as tho' you'd fall forever . . . You may want to close your eyes on the way out."

"Never gone into anything with my eyes closed yet," she smiled, as she shuffled to the open hatch. "See ya, Joe."

"S'long, beautiful . . . buy you a steak and a weekend at Squaw when we get back."

"Aspen," she corrected, and was gone.

"Good burn," Joe whispered to himself. He looked away from the careening vista of night-shrouded Earth and void to watch the seconds tick away on his suit chronometer.

"Time," he said aloud, and he moved into position at the hatch. He hesitated for a moment on the brink of what seemed an endless abyss, and as the darkened bulge of Earth swung up to his right, he plunged forward, out and away from the shattered spaceplane.

The next few seconds were filled with jumbled sensation and actions. As Joe went through the hatch, his stomach rebelled at the sudden transition to zero-g and did a series of uncomfortable flips. At the same time, his head thumped against his helmet, smearing it with blood from his wound. He groped for the dee-ring that would release the polyurethane, found it and pulled. Nothing happened. A twinge of panic came and went, and he fumbled with the ring; it was hung up on the sighting device. Freeing it, he pulled again; this time, there was a "woosh" and the bag ballooned out, cocooning him.

His departure from *Houston* had imparted a slow head-over-heels tumbling motion, and his next action was to neutralize it. He grasped the burn control in his right hand. It was shaped like a pistol grip and the thruster control keys, two each for roll, pitch and yaw, were arranged in two rows on one side. There was a large red key on top, the retro switch. Joe tapped one of the pitch controls. There was a gentle bump and the tumbling slowed. He pressed the key again. The tumbling

reversed direction. Joe keyed the other set of pitch thrusters. The end-over-end stopped.

His first thought after stabilizing was to look for Bill. She ought to be off beyond his feet, toward the southwestern horizon, surrounded by its halo of airglow. Not a sign. Well, what could he expect; they were on the night side now. She may have even deorbited already; no, too soon for that. Oh well . . . He could dimly see the *Houston*, or what was left of her, through the top of his helmet. She was about half a kilometer off now, rolling away, nose over shattered stump.

He turned to the business of saving his neck. First, achieve the proper attitude. That meant swinging through about ninety degrees of roll, one hundred-and-eighty of pitch and then a lot of fine tuning. Joe fired one set of roll thrusters and Earth slid away behind his back. Blip on the other set of roll jets—and again. He was now looking into the vastness. Off to his left and just above the neck flange of his helmet he could see the ghostly beauty of the Magelanic Clouds and the un-winking, cold fire of Canopus and Achernar.

Before executing the pitch maneuver, Joe swung the attitude sighter up into position against his helmet and locked it in place. The sighter was a low-power monocular with ten concentric arcs etched on the objective. Each delineated that portion of the sighter's ten degree field which the bulge of Earth would occupy as it appeared at twenty-five nautical mile intervals from seventy-five to three hundred nautical miles out. When Joe

was in re-entry attitude, the horizon line would merge with one of these curves or fall evenly between two of them.

Squinting through the optics, Joe fired the pitch thrusters. The shining rim and then the velvet bulk of Earth rose into view. The image seemed blurred; it was his blood smeared on the helmet glass. Damn! He had let things swing too far. He cut in the opposing set of thrusters. The horizon came back into the field. Back on with the other pitch jets; tap the other set. "Okay, beautiful!" Joe exclaimed. The curve of Earth's rim bisected the one hundred nautical mile line at an angle of about fifteen degrees.

"Now the yaw mode," he rasped and he unconsciously tried to wipe a drop of sweat from the end of his nose with his left hand. He snorted a laugh and blew the salty bead away.

He began a series of delicate bursts on the opposing pairs of yaw jets which at last brought things into harmony. The earth filled most of the sighter's field, with the horizon line just a gnat's whisker above the one hundred nm marker.

"Man, hot work," he told himself. He slumped inside the p-suit, listening to the thudding of his heart and the heavy wheeze of his breathing. Damn, his head hurt!

Suddenly, a new star blazed orange-white against the darkling sky. Bill! It seemed to fall away rapidly, diminishing, diminishing; and then it winked out.

"Well, troop, it's your turn," he informed himself. Making one last check

through the sighter, Joe braced himself and hit the retro.

He suddenly felt as though he were rushing toward the southwest with the retro kicking him in the back. It seemed as though the jet was going to fire forever; then it shut down. Things were as before. Had the burn worked? Again, a tingle of panic passed through him and was gone. *Of course it had worked!*

Then he was hit with a great surge of acceleration—the fringes of the atmosphere trying to push him back into space. The g's built up rapidly to eight-times Earth-normal, crushing him against the back of the p-suit.

Hanging on the edge of consciousness, his sensations and thoughts blurred and merged: *Heat, awful heat . . . too hot . . . something wrong with shield . . . shouldn't be so hot . . . flames . . . fireflies . . . what's taking so long? . . . where's the 'chute? . . . where's the 'chute . . . "Where's the 'chute?"*

"*Senhor. Senhor. Please . . . you are alright?*" Joe opened his eyes and looked around. He was in what seemed to be a field illuminated by bright lights, apparently auto headlights. Kneeling beside him was a swarthy man in a Panama hat, the speaker, and he could see several other dark figures. His helmet had been removed and his head was propped on something soft.

"Yeah, I'm still kicking . . . I think," he said, haltingly.

"*Bom! . . . good. You have been badly hurt . . . there is a doctor on the way. Your companion . . . she has been found also.*"

"She made it! Is she . . ."

(Continued on page 108)

For a long time now, various special-interest groups have been writing the laws in their own favor, and an outstandingly flagrant example of this is the way in which funerals are now regulated by law to the advantage of the "funeral homes" (to use the euphemism currently in favor). One needn't have read An American Way of Death to appreciate the wry ecological underpinning of Betsy Curtis' startling proposal to return—

EARTH TO EARTH

BETSY CURTIS

Illustrated by STEVE HARPER

CLICK. Sound comes on. The picture brightens.

. . . are bringing you this special feature filmed this noon right at the Erie County farm of Thomas DuPree, one of the acknowledged leaders of the Natural Burial League.

Through the eye of our helicopter camera, you can see the fields stretching away in this bright noontime Sunday sunshine. The green ones are alfalfa; the yellowing tan is ripening oats. That irregular line of trees in the distance shows where Bearpaw Run circles the north side of the farm. Directly below (and we'll bring the view up close for you) is the hilltop in the DuPree pasture where you can see the outlines of the open shallow grave and the pile of dirt beside it. Leading down from the hilltop, which is little more than a knoll above the rest of the pasture, you can see the half hidden cart

track along which the burial party will come.

And here they come now from the direction of the house and barn you saw a few minutes ago. That little procession, not more than thirty or forty people, counting the children in their ritual rags and tatters. This will be slow, folks. It's a long walk in the hot sun to carry that plain pine box. We'll give you a closeup. Those are the eight pallbearers, mostly from the city of Erie, we understand. I think we can bring you in close enough to see that they are wearing blue jeans and denim shirts . . . maybe you can even make out the swinging of their love beads as their steps match on the long slow march. You can see the children gathering buttercups and daisies and Queen Anne's lace as they romp beside the marchers.

Walking just behind the coffin you can see that tall bearded man holding

the arm of a slim woman in a sunbonnet. That's DuPrce, owner of the farm, and his wife . . . parents of the late Annie DuPree whose symbolized remains are being carried up the hill in that long plain pine box.

("Why did she look so dusty, Tom, even before you put all that dirt around her in the box? Or can they hear us from the helicopter?")

("No, they can't hear us from that far. Those were the flesh-fly eggs, dear. They do look like dust. Are you sure you want to hear?")

("This is what Annie wanted. Tell me.")

("That culture of flesh-fly I got a couple of weeks ago from Joe Wother-spoon at Penn State Ag College. What Annie took the hamburger for from the freezer. I thought I told you then. The maggots are the closest thing we could figure to the European grave worm, when a lot of burials were topside in mausoleums. It was one of Annie's projects but I guess she didn't let you know. I have some lines about it in the service. She researched them . . . they're from Poe.")

("But how did they get onto her body?")

("Exposed it last night in the room under the barn. There's a smell of death in dead tissues that attracts the adults and starts them . . . the females . . . laying eggs. I got the adults and some of the eggs back in the jar before we came out to fill the box this morning.")

("Won't that make it hard for the maggots to hatch . . . all that heavy dirt on top of . . . of . . . her . . . pieces?")
A sob smothered by a deep breath.)



("No. Anne and I tried it last week.
They'll hatch.")

("Oh," only a little catch in the
throat now, "thank you.")

We say 'symbolized remains' because the Natural Burial League has not yet had the audacity to bury a real body. This is their regular Sunday observance of a 'funeral', folks; not, of course, the real thing. Or is it? Perhaps this is the first. Annie DuPree actually died in the hospital last week of injuries received in a traffic accident on Interstate 90. The body was claimed by the family; but there has been no known funeral, we repeat no known funeral up to this time.

For a truly *dignified* pre-funeral, dear friends, remember that the ForgetMeNot RestLawn provides the perfect quiet atmosphere for *your* dear ones to receive those last visits of admiration as they lie in state in one of the Peace Chapels provided especially for dignity and respect.

The group following the DuPree's are family friends neighbors, and members of the League. You can see that they seem to be talking together, not marching silently like the pall-bearers. Oh, the pallbearers are laying the coffin down and eight other men are walking up to take their places. The relief bearers. There's still a long way uphill to go.

("Tired, Janice? Want to stop and rest a minute?")

("No thanks, Martha. Guess I'm just shook some by the way the . . . the remains looked as Steve and Tom packed the dirt in around and on top.

Not exactly lying in state." Forced and failed attempt to laugh.)

("I know, dear. But as Annie said, 'State is for the living.' She lent me *The Loved One*—I know how she felt. She'd have been glad there was no chance for anybody to say 'She's looking very natural. This *is* natural, no matter how it looks.'")

("Maybe I do need a moment's rest. You go on.")

You will get a closer look at the ritual clothing, reminiscent of the farm dress of a hundred years ago, when we bring the helicopter down and shoot from solid ground at the graveside.

And now, while we are waiting for them to reach the top, we shall land the copter to be ready to bring you the words from the spot. So it's time for one minute with our sponsor . . .

Screen goes grey-blank. Then gentle organ notes and far-off choir heard singing "Sheep May Safely Graze." Screen brightens a little, a beam of light falling from upper left to a gleaming brass vase of white roses, lower right. Choir fades as a gentle fatherly voice says comfortingly, "At Home At Last. At Peace. At Rest. In the ForgetMeNot RestLawn, the *Legal Love Park*." Roses change to document edged in official-looking scroll-work. Voice now crisper, firmer, "Exact rites of all faiths," pause, "dry . . . sanitary . . . perpetual resting place according to the state and city codes provided by the truly *thoughtful* representatives you elected to formulate them as *you* desired. RestLawn, the *Legal Love Park*."

Screen goes grey-blank. Suddenly a bright picture—blue sky—bottom third

of screen showing tall grasses and weeds, swaying and bending.

We're down now, folks, on the hilltop of the south pasture on the Thomas DuPree farm, for those of you who turned us on late. Seeing the regular Sunday burial rites of The Natural Burial League. That little group you can see in the distance coming up the cart track are the members of the League in their regular Sunday observance of what they call "Funeral Day." This special feature is being brought to you live through the viewer services of the Corporate Broadcasting Network in conjunction with the regularly scheduled RestLawn Hour. "Corporate—the News at the Spot!"

This is your regular reporter, Will Fairweather. And speaking of fair weather, I wish you could be here to feel what the cameras and I can't give you . . . the fresh hilltop breeze . . . you can see the tall grass and the blooming weeds bend and ripple (without the chance of getting hayfever, of course) . . . the smell of summer in the country and grass under the hot sun. The funeral party is not close enough yet for us to catch what they are saying, if anything; but they don't seem to be singing their well-known chant. A quick pull-up on telephoto shows you one man, the one in the fringed leather vest, handing the one with the red plaid shirt some sort of papers.

("We're getting a pretty good press.")

("I been busy. What do you mean?")

("Three letters in four days in *The Erie Times-News*. Just this week. Phil

Smith wrote ours. Pretty good. Here.")

("To the Editor. What can we outraged citizens do to protect ourselves and our fair land against the obscenities and pollutions of the madmen calling themselves The Natural Burial League? Surely we have laws and police. Why isn't something being done to halt the flow of degrading pamphlets and insane defences published by this 'beyond the fringe' sect? Isn't it time for us whose air and water and very lives are being smeared with such proposals to do more than protest? Signed, Outraged Citizen."

("That is a good sign. Didn't have nerve enough to sign his name. What's the next one? To the Editor. Just to get the story straight, The Natural Bruial League is motivated by a respect for life. Throughout all our lives our bodies have been performing the incredible job of making complex proteins out of simple ones. The cycles of life call for the use of such compounds to support other life. We believe that specialized structures and organs such as the cornea and heart should be used by our own kind when possible to promote life more abundant than would be possible without such offerings; but we also believe that what then remains should be offered to the vegetable and animal (including insects) kingdoms as no more than their just due, considering how we have utilized their lives to promote our own. Signed, Philip Smith. A good job.")

("Look at this last one.")

("To the Editor. I don't think the good people of Erie County realize that the group calling itself the Natural Burial League is truly heathen and

profane beyond any doubt. Christian burial is one of the basic sacraments of the Christian Church and the intended practice of burial of 'the house of the soul' in *unhallowed* ground without the services of recognized and ordained Christian ministers (and what truly Christian minister would have such disregard for the city and state ordinances concerning the hermetic sealing of all burial vessels?) is tantamount to a disavowal of all that Christianity stands for. As a Christian, Mr. Editor, you would do well to point this out to your fellows of the Erie area. Signed, The Rev. Eric Fonderheim, Emmanuel Messiah Church.' That all?"

("It was a mention. Got our idea, no matter how mangled, in front of people to be looked at. Helped to put that helicopter up there. Publicity *can't* hurt us with the people who want to be informed.")

("True.")

We'll turn the cameras on the grave for a few moments. You can see the open pit, not more than a couple of feet as you can notice . . . not our traditional *and* sanitary 'six feet under' . . . and you can see the mounds of earth from the last three Sundays' rituals. Each of those graves contains the same sort of pine box you saw the pallbearers carrying. If you were listening to our report last Sunday evening, you know that these boxes are filled with plain dirt and some token like a lock of hair from one of the living members of the League. We understand that one of the boxes also contained some of the baby teeth of those children which you can see over

there . . . turn the camera, Steve . . . running ahead of the coffin now. It seems their parents saved the teeth for the ceremony. How do you like *that* switch on the time-honored tradition of tooth fairies, television viewers? Sorry. I didn't mean to be irreverent.

That little knot of women looks as if they were out for a picnic, not a funeral, though. They don't look very serious. Let's look up close. Perhaps I should take that last back. They look . . . well . . . worried could be the best word for it. You pick a word . . . look at their faces.

("Aren't we taking an awful risk with Annie's body actually mixed with the dirt in that coffin? With that helicopter and all?")

("Tom knows what he's doing. We've had four raids now and the police are beginning to look silly. I don't believe they'll even show up today.")

("We can hope. But I can't say I'm not worried.")

Here they are at last. You can see them setting the box, coffin, I should say, into the shallow hole. Less than a foot from the surface of the field. Very different from the deep and sanitary burial required in all cemeteries in the Commonwealth of Pennsylvania. If you look closely, you will see that the box is of plain boards like you or I might get at any lumberyard. No casket, just a box.

Remember, all you have to do is ask one of the Family Friends at Forget-Me-Not to show you the truly magnificent line of caskets offered by your local RestLawn.

It doesn't matter, really, though,

folks. This is just a cult ritual as we told you. The box is full of dirt . . . probably dug down by the barn or somewhere else not too far away. The box was brought to the farm last night in the station wagon of that short man over there . . . the one with the straw hat held over his chest. They have quite a dramatic imagination, haven't they?

Excuse me. Can we get our camera up a little closer?

Now we are about to hear the interment ceremony. Bill Jacobs has the graveside microphone. Take it away, Bill Jacobs.

Thomas DuPree has stepped to the head of the grave . . . or maybe it's the foot. He picks up the shovel lying there. You will hear Mr. DuPree.

"We commit her body to the ground; earth to earth, ashes to ashes, dust to dust; in sure and certain hope of a resurrection into life."

Mrs. DuPree has let go of a neighbor's arm and is stepping up.

"Annie DuPree can proudly claim that her corneas, her heart, her kidneys, her liver, and both femurs have been donated to the respective organ and bone banks of Hamot Hospital. May they assist, according to her wish, in bringing life more abundant to our brothers and sisters of the world."

How do you like that, folks? I think that calls for real pride, no matter how burying is done. Makes me a little embarrassed and that's a fact. Well, now, someone else is about to speak. One of the first group of pallbearers. You can see the fringe of his leather vest quivering. He is obviously moved.

"The corruptible bodies of those who sleep in the earth shall be changed."

Now one of the women bows her head. See, over that way. *

"Man, that is born of a woman, hath but a short time to live, and is full of misery. He cometh up and is cut down like a flower; he felleth as it were a shadow, and never continueth in one stay."

DuPree is now throwing in the first shovelful of earth from the pile onto the top of the coffin. Now another and another. A man steps forward. Say, folks, if you listen carefully, I think you can hear what the whole group seems to be noticing. Sirens. Not too far away.

"Sown in corruption," scree-ee-ee in the distance, "raised in incorruption." Scree-ee-ee-EE-ee! Vree-ee-ee-ee-ee-ee!

Here they come folks. We'll raise the cameras so you can see the six or is it eight motorcycles way at the base of the road.

" . . . the lilies of the field, how they toil not, neither do they spin." A couple of children are throwing their field flowers in with the shovelsful of dirt. "Yet I say to you that Solomon in all his glory was not arrayed as one of these." He's beginning to speak pretty fast. Now a girl is shoving forward.

"We . . . we brought n-nothing into this world, and it is certain w-we can carry nothing out." I think they're racing for time. Look at DuPree shoveling like crazy. What? He's stopping. Going to say something else, I think.

"And the angels, all pallid and wan, Uprising, unveiling, affirm That the play is the tragedy, 'Man, And its Hero the Conqueror, Worm.'

Those quotations get pretty morbid,

don't they? And now the cops are getting closer. You can hear the motorcycle engines. Sounds like the Pennsylvania State Hill Climb we brought you only a few weeks ago. Look at the kids. They are up to something . . . they've joined hands over there beyond the grave and are dancing around. See if we can catch what they're singing. Take it, Will Fairweather.

"... Pocket full of posy. Ashes, ashes, all fall down."

And they are, too, folks. And all the adults but Tom DuPree are sitting down on the grass as if it were all over.

("Mortal-remains-of-Anne-Melody-DuPree rest-briefly-in-peace.")

They're all looking toward the road—and here are the police now. Back to the graveside. Take it Bill Jacobs.

This is the Corporate Broadcasting Network, folks. Let us through. We want to get what the police are saying, for our listeners.

"All right, Tom. All right now. Dig it up."

"Again?" Look at him grinning right at the police officer, folks.

"Again, Tom. Because this time we've not only got search warrants but arrest warrants."

"Arrests? Who?"

"The whole outfit. For conspiracy to commit a misdemeanor."

"Even if the box is just full of dirt . . . like last time . . . and the time before . . . and the time before?"

"Dig it up. We're just doing what we're told. Besides, where's Annie, Tom? This time we've got you."

DuPree is slowly leaning down and shoveling the dirt back to the pile. Watch now.

Say! the top of the box looks loose!

"Tom, if you fellows had any real respect for the dead you'd nail down the lid, at least."

"Officer," that's Mrs. DuPree, folks. "If you fellows had any real respect for the living, you wouldn't raid a funeral." Quite a tongue, hasn't she?

"Go on Tom. Dig her up. Our warrant is for the body of Anne Melody DuPree. Dig it up and open the box!"

He's prying up the lid with the shovel, folks, and resting it up on the side of the grave. I don't suppose the camera angle lets you see this. Something is falling out. Hey, one of the women has fainted. Turn the camera, quick Al, back to the coffin!

It's hair! Long strands of hair . . . cut off hair, folks! They're coming loose. Just cut off hair. It could be that of Annie DuPree. And then just packed dirt. The box is full of dirt. Tom DuPree is jabbing down in it with his shovel. Looks pretty angry, doesn't he? If Anne's body was in there you can bet he'd hardly do *that*.

"Is that *enough*?" DuPree sounds mad, folks. Now he's jabbing around all over the dirt in the box.

"That's enough. You've made fools of us once too many times. You've got the body stashed away down at the farm. Come on. Come on all of you! Get moving. You're all under arrest!"

"Wait a minute, officer. We're newsmen for Corporate Broadcasting. You can see our camera and microphones and that's our helicopter over there. I'm Will Fairweather, you know. And you're—?"

"Sergeant Bailey, Pennsylvania State Police. Okay, Mr. Fairweather. I guess our warrants don't include you. All

right, now, all the rest of you. Get moving. Back to the farm. The game's over. Come on. You, too, kids. (The things some parents will do to their kids . . . is that Mike still live, Fairweather? Good.) The things some parents will do to their kids the whole world should see. And rise up in disgust with how low some people can be! All right! Kids! Keep moving!"

They're going back down the hill now, folks . . . two cops have gone ahead and two are on each side . . . hard to push those motorcycles through the long weeds . . . and two following . . . sort of an echo of the pallbearers coming up. Listen, now. Now they're singing their chant!

(Continued from page 57)

because people laughed a lot. I wasn't paying attention; I was going on next.

The skit ended. I picked up my guitar—I'd tuned it during the bursts of laughter—and stopped at the edge of the curtain for Commander Aarons to introduce me.

The Commander is a big, stocky man with a grizzled moustache and a lot of smile lines around his mouth. He keeps up his ruddy tan and always looks like he's in perfect health. That's why I noticed the difference this time. He was standing off to the side of the stage, talking to one of the Lab officers. The officer was still in uniform, as though he had just left the bridge. The Commander was scowling. His face had turned pale. He asked the officer a question, listened, and then looked across the stage at me.

" . . . one of these days . . . my heart knows it's so . . .

"We shall under go . . . we shall under go."

Guess that's all, folks. One last look at the open box and trampled grass and weeds. If the remains of Annie DuPree had been there, I understand, you would have heard old DuPree complete the ceremony with the final words, "Mortal remains of Anne Melody DuPree, rest briefly in peace."

Now back to our sponsor and your station identification . . .

CLICK

—BETSY CURTIS

He made a gesture for me to stay put. The Commander walked to the center of the stage and held up a hand. The crowd quieted.

"I am afraid the rest of tonight's program will not be presented," he said. There was a questioning hum from the audience.

"Tonight, while on duty and conducting satellite maintenance, Ishi Moto was killed by a small meteorite. His death was instantaneous. The chunk of rock that struck him was only the size of a dime, but it was moving very fast.

"Ishi was a fine boy. I do not think it appropriate that we continue this program. Good evening."

TO BE CONCLUDED

GREGORY BENFORD

BOB SHAW

Back with a brief and to-the-point vignette after his "Other Days, Other Eyes," which concluded last issue, Bob Shaw offers a trenchant comment on the possibilities for—

DEFILATION 2001

HAVING TO PAY ten dollars for a cup of coffee shook Lester Perry.

The price had been stabilized at eight dollars for almost a month, and he had begun to entertain an irrational hope that it would stay there. He stared sadly at the vending machine as the dark liquid gurgled into a plastic cup. His expression of gloom became more pronounced when he raised the cup to his lips.

"Ten dollars," he said. "And when you get it, it's cold!"

His pilot, Boyd Dunhill, shrugged and then examined the gold braid of his uniform in case he had marred its splendour with the unaccustomed movement of his shoulders. "What do you expect?" he replied indifferently. "The airport authorities refused the Coffee Machine Maintenance Workers' pay claim last week, so the union told its members to work to rule and that has forced up the costs."

"But they got 100% four weeks ago! That's when coffee went up to eight dollars."

"The union's original claim was for 200%."

"But how could the airport pay 200%, for God's sake?"

"The Chocolate Machine Workers got it," Dunhill commented.

"Did they?" Perry shook his head in bewilderment. "Was that on television?"

"There hasn't been any television for three months," the pilot reminded him. "The technicians' claim for a basic two million a year is still being disputed."

Perry drained his coffee cup and threw it into a bin. "Is my plane ready? Can we go now?"

"It's been ready for four hours."

"Then why are we hanging around here?"

"The Light Aircraft Engineers' productivity agreement—there's a statutory minimum of eight hours allowed for all maintenance jobs."

"Eight hours to replace a wiper blade!" Perry laughed shakily. "And that's a productivity deal?"

"It has doubled the number of man-hours logged at this field."

"Of course it has, if they're putting down eight hours for half-hour jobs. But that's a completely false . . ." Perry stopped speaking as he saw the growing coldness on his pilot's face. He remembered, just in time, that there was a current pay dispute between the Flying Employers Association and the Low-wing Twin-engined Private Airplane Pilots Union. The employers were offering 75% and the pilots were

holding out for 150%, plus a mileage bonus. "Can you get a porter to carry my bag?"

Dunhill shook his head. "You'll have to carry it yourself. They're on strike since last Friday."

"Why?"

"Too many people were carrying their own bags."

"Oh!" Perry lifted his case and took it out across the tarmac to the waiting aircraft. He strapped himself into one of the five passenger seats, reached for a magazine to read during the flight to Denver, then recalled that there had been no newspapers or magazines for over two weeks. The preliminaries of getting airborne took an unusually long time—suggesting the air traffic controllers were engaged in some kind of collective bargaining—and finally Perry drifted into an uneasy sleep.

He was shocked into wakefulness by a sound of rushing air which told him the door of the aircraft had been opened in flight. Physically and mentally chilled, he opened his eyes and saw Dunhill standing at the yawning door. His expensive uniform was pulled into peculiar shapes by the harness of a parachute.

"What . . . What is this?" Perry said. "Are we on fire?"

"No." Dunhill was using his best official voice. "I'm on strike."

"You're kidding!"

"You think so? I just got word on the radio—the employers have turned down the very reasonable demands of the Low-wing Twin-engined Private Airplane Pilots Union and walked out on the negotiations. We've got the backing of our friends in the Low-wing

Single-engines and in the High-wing Twin-engines Unions, consequently all our members are withdrawing their labor at midnight, which is about thirty seconds from now."

"But, *Boyd!* I've no chute—what'll happen to me?"

A look of sullen determination appeared on the pilot's face. "Why should I worry about you? You weren't very concerned about me when I was trying to get along on a bare three million a year."

"I was selfish. I see that now, and I'm sorry." Perry unstrapped himself and stood up. "Don't jump, *Boyd*—I'll double your salary."

"That," Dunhill said impatiently, "is less than our union is claiming."

"Oh! Well, I'll triple it then. Three times your present salary, *Boyd*."

"Sorry. No piecemeal settlements. They weaken union solidarity." He turned away and dived into the roaring blackness beyond the doorway.

Perry stared after him for a moment, then wrestled the door shut and went forward to the cockpit. The aircraft was flying steadily on autopilot. Perry sat down in the left-hand seat and gripped the control column, casting his mind back several decades to his days as a fighter pilot in Vietnam. Landing the aircraft himself would get him in serious trouble with the unions for strike-breaking, but he was not prepared to die just yet. He disengaged the autopilot and began to get in some much-needed flying practice.

Some thousands of feet below the aircraft Boyd Dunhill pulled the rip-cord and waited for his chute to open.

(Continued on page 108)

PROOF

F.M. Busby made his first appearance in this magazine with "Of Mice And Otis" (March), a light and amusing fable. This time around he tries a different tack. Of "Proof," he says, "The title is a little bit 1943-Astounding-ish, I know." In a curious way, that's appropriate: Here's a fresh look at an old, old idea . . .

F. M. BUSBY

SO THAT'S your time machine," said Jackson. "Shades of H. G. Wells." The Time Chamber, with its loose hanging power cables and confused-looking control panel, didn't look much like Mr. Wells' crystal bicycle.

"Oh, not mine, not mine at all," Dr. Gerard said. "Durrell in England provided the math; Bell Labs' computer study translated it into hardware. My part is to plan and conduct the testing program; nothing more." He smiled. "I wouldn't want to see you spoil your record for accurate reporting."

Jackson's pudgy frame shook with half-suppressed laughter. "According to my boss," he said, grinning up at Gerard's lean face, "the last time I got anything right was my birth certificate. But thanks, anyway. Now, can you give me—hey, wait a minute!" Jackson stiffened, looking at the corner of the room behind the Time Chamber, where the grey wall expanded in an unusual convex arc, a quarter-circle. He knew this room. After twenty years he still recognized it. It had been blue, before.

"Is something the matter, Mr. Jackson?"

"Yeh. Isn't this building—this room—where Senator Burton was assassinated? I was just a kid, but . . ." The room had been shown on TV over and over, with various dignitaries giving the official version of the tragedy. Public doubt—there had been too many killings, each too well explained—had abruptly reversed the expected outcome of that year's presidential election. Vividly, Jackson remembered the shock. "Well?" he said.

"Why, yes; it happened here. I'd forgotten; it's been so long. Afterward the building was used for storage for several years; then it was remodeled and the Department got it for lab space. I had really forgotten."

Jackson shook his head. "No matter; it just jarred me for a minute." He scowled; this was no time to discuss his 20-year obsession with the mystery. "Let's get on with it, doctor. Can you give me a quick rundown on what this machine does and how it does it? Layman's language? So I can boil it down to 500 words for my lip-moving readers."

Gerard tipped his head back, hunched his shoulders. Jackson recog-

nized the movement, could almost hear the tensions popping loose in the doctor's neck. Pushing himself too hard, he thought.

"Layman's language, eh? Let's see, now. Start with Durrell's formulation: the past is a solid compressed sphere with the Big Bang at its center and the present moment as its surface. All right so far?"

"Got it." Jackson scribbled pothooks in his notebook. "You just cut us to 400 words, though. I'll need room for a cartoon." He nodded a go-ahead to the taller man.

"Luckily, Durrell's hypothetical sphere is not impenetrable. Near the surface, at least. In theory this device-machine is hardly the proper term—will force an opening into it, so that we may insert test objects."

"Into the past? How about the future?"

"Into the past, yes. By definition, the future is non-existent."

"Hmmm. Doctor, how can the past have room for anything that wasn't there to begin with? You say it's solid, and that fits—we haven't been living in a world with holes in it, that I ever noticed. But two things can't be in the same place at the same time. How do you explain that?"

Gerard paused. He walked across the room, Jackson following, to the Time Chamber at the far side. Under the control console, against the convex arc of wall that had triggered Jackson's memory, lay a hammer. Gerard picked it up, held it out for Jackson to see.

"One of the workmen must have left this here," he said. "The installation is complete and operable but the men

still have some tidying-up to do." He gestured toward the loose cables. "As to inserting something into the past: I want you to look closely at the head of this hammer, where the end of the handle is exposed."

Jackson looked. "What am I supposed to see?"

"The wedges; see them? They are driven into the handle to expand it, so that it can't slip out." Jackson's brows climbed his forehead.

"The point is that the wedges don't occupy the same space as the wood. They displace the wood fibers, compress them, slip between them. To make a very rough analogy, Durrell's theory indicates that this device"—he nodded toward it—"will insert test subjects into the past in much the same fashion, except that the insertion will not be perceptible from any past viewpoint."

Jackson snorted. "I'm afraid that doesn't sound very credible to me, doctor."

"I suppose not." Gerard smiled apologetically. "Perhaps the analogy was a mistake; all analogies fail if carried past their limits. The concepts can be stated accurately only in mathematical terms, and Durrell's math appears to be quite sound. Of course the proof of the pudding . . . Well, we'll test the effects thoroughly, one step at a time."

"Right. And what are those steps? That's the kind of thing the readers want."

"In brief, I shall start with inanimate objects such as this hammer, that paperweight, whatever else might be handy. Measuring their properties be-

fore and after insertion into and withdrawal from the past. Next, instrument packages, which can tell us a great deal more. Then living subjects, the traditional mice and guinea pigs. And finally, if indicated, the ultimate test."

"A human being," said Jackson in a flat voice. "You have a volunteer?"

"Oh yes, of course. Myself, actually. Who else could I risk? But the risk will be small. Preliminary experiments will tell the tale, and I have considerable faith in Durrell's hypotheses."

"I'm sure, doctor." Jackson needed something more. "Now how about a quick outline of your operating procedure? I mean, turn Knob A to Line B and push Button C? The public likes to think it knows how things work."

"Yes, I suppose so." Gerard gestured toward the control panel. "This looks complicated, all those knobs and switches. It's the prototype model, and believe me it was complicated at first. But you can forget about all the controls except the four that have been marked with red paint; the rest have been put on a computerized feedback circuit.

"The red handle on the left overrides the computer; I don't expect that we'll ever have to use it. The red knob under the 0-to-100,000 dial sets the number of years of penetration into the past; I'm told the calibration is accurate in theory but naturally I'll check it thoroughly. The 'Depart-Return' switch is self-explanatory, wouldn't you say? And to its right, the final red knob and its instrument dial are the timing control. A small bonus from the Labs."

"Yes?" Jackson was hearing more than he really needed to know, to make

up his 400 words. But he had to play along. "What's the bonus?"

"Automatic return of the test subject, after a pre-set period of exposure to the past environment. Much more efficient than having to sit, watch the clock and push the Return switch personally. Or when I take the plunge myself, which seems to be a reasonable probability, I can pre-set the timing with no need for anyone else to sit on watch and bring me back. A nice touch, isn't it?"

"Yes," said Jackson, "I'd think so. Now just one more thing—"

The picturephone, on a desk to one side, chimed. Doctor Gerard answered it, spoke softly, then shut it off. "Mr. Jackson, please excuse me for a few minutes. I'll be back as soon as possible."

Left alone, Jackson prowled the room restlessly. The device, the Time Chamber, violated his personal view of how things worked in this universe. But he had to accept what he had been told, didn't he?

Or did he? From what Gerard had told him, he could check it out for himself!

No, that was insane. The thing hadn't been tested. Try it with the hammer first. Was there time for that? Jackson's will divided against itself. Durrell was a big gun in theoretical physics, wasn't he? And Gerard swore by him.

Senator Burton: who had killed him, here in this room? Jackson had gnawed that bone for twenty years. Slowly he turned to the Time Chamber and its controls.

The Chamber didn't look like much, an overgrown phone booth without the

phone, dimly-lit in an off-violet like a failing sunlamp. The controls were more intimidating; push the button: Zap! You're extinct! Jackson shook his head, looked closer. How did it go, again? Under him, his legs were shaking. Funny; he hadn't noticed when the shaking had begun. He squared his shoulders, took a deep breath.

All right; he set the Years dial, hoping he had the mental arithmetic right for the date of Burton's killing. Timing? Five minutes should be enough for a first look; he had to be back here before Gerard.

Hell and damn! It wouldn't work; the Depart switch was out of reach from the booth. But surely Gerard must have thought of that hangup. Try everything. Ah! The timing dial pushed in, as well as turning. It latched; illuminated numbers began a 30-second countdown. Yes, that should do it.

Years about twenty, timing five minutes; push the switch and sit in the booth. Waiting

The world dropped out from under Jackson; before him was a senseless photomontage as twenty years of happenings in one room flashed past, each moment as distinct from the next as titles on a bookshelf.

He closed his eyes but couldn't close his mind; the overpowering input was still there. Unable to resist, he surrendered to it. At that instant it stopped, like crashing full-tilt into a solid wall. Jackson saw.

He saw one picture, one moment out of the history of that room. It was not at all what he had looked for. There was a girl, a typist, frozen in her ex-

pression of irritation or petulance, one hand scratching her leg just below her short skirt, the other resting on the keyboard of her typewriter. Her hair, bleached nearly white, was twisted into short corkscrews. Her mouth was painted a shape as improbably as its color. She looked uncomfortable. Recalling the fashions of the time, Jackson decided that she probably was.

To him, the five minutes frozen into the timing dial seemed to be forever. When the picture began to shift, to return him, he felt a vast relief.

The moments began to unroll again. But not as a coming and going. He had gone to the past and stopped at one instant. He expected the same thing, the same bookshelf-title confusion, to happen in reverse. It didn't.

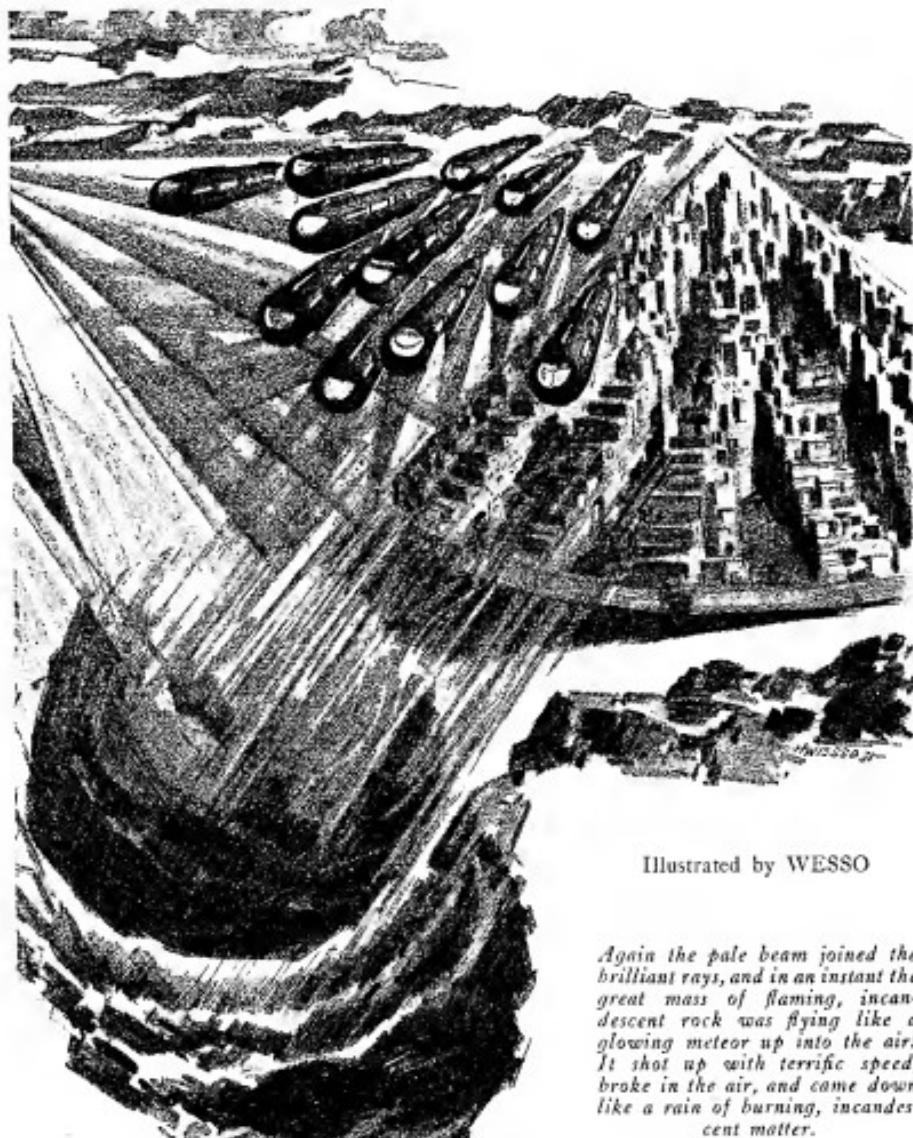
The moments came and stayed, all of them. He saw Time from a sidewise view, a spectator at the side of a race-course rather than a participant running along it. There was the bleached blonde at one end and himself pushing buttons and turning knobs at the other. If there had been any ends to it. There weren't.

He saw Burton killed, saw the killer clearly. It wasn't anyone he knew. He became tired of seeing it, seeing the police fumble and let the man escape back into his own irrelevant paranoia.

All in still pictures, fixed scene by fixed scene, an infinite number. All at the same time and yet also in sequence. And it wouldn't stop; it would never stop.

There was Doctor Gerard showing him a hammer, with wedges driven into the top of the handle. "The proof of the pudding . . ." The past isn't rigidly
(Continued on page 129)

PORTFOLIO:
WESSO
ISLANDS OF SPACE
by JOHN W. CAMPBELL, JR.



Illustrated by WESSO

Again the pale beam joined the brilliant rays, and in an instant the great mass of flaming, incandescent rock was flying like a glowing meteor up into the air! It shot up with terrific speed, broke in the air, and came down like a rain of burning, incandescent matter.

Illustrated by
WESSO



Like black magic it seemed indeed, the shadow of the man standing at the table, clothed in a long, dark cape, filled with lead, to protect him from the radiations as much as possible. It made a strange and impressive scene.



"See the large black cylinder up there?"
Arcot, Junior, asked.



The great globe, they found, was hollow. Artot flew up to the top of the globe, and viewed it from above. There was a carefully chiselled relief map on the smooth surface . . . There was nothing at the top but a mass of brass.

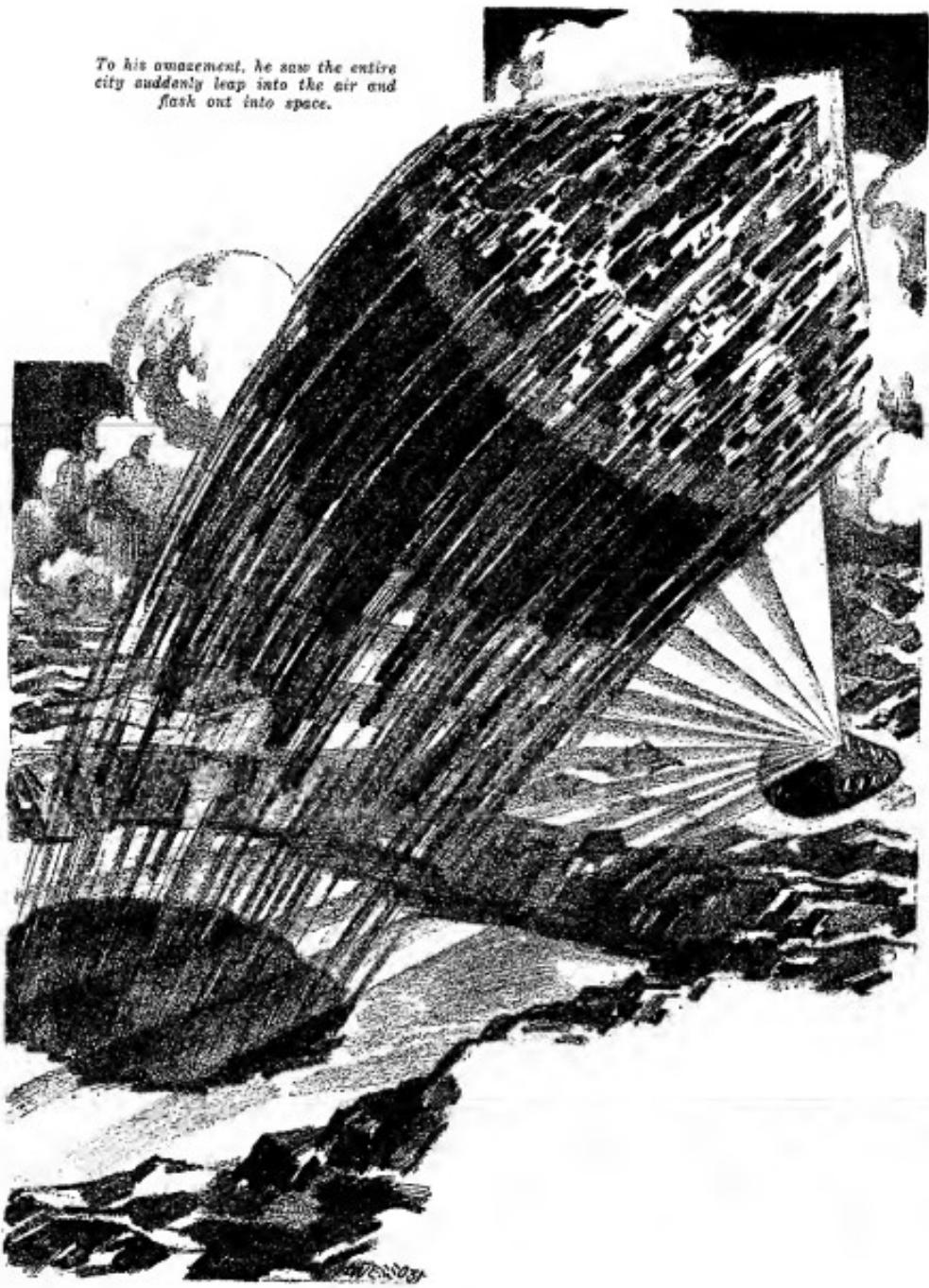


Suddenly Morey cried out and pointed below them. A mighty tongue of flame was reaching out toward them, climbing, coming up at a tremendous rate—the star they were circling was expanding—growing—wakened into life by the glowing attraction it felt, as the mighty star above moved nearer.



He rose about six feet above the landing, and then indicated to Torlos that he was to grasp his feet, one in each hand.

To his amazement, he saw the entire city suddenly leap into the air and flash out into space.





"Ah—home! See—that train come idea is new.
It was not thus when I left long ago. . . ."



... It grew with each crash, till a dozen
ships had fallen into it—it was a new
broom and it swept clean!

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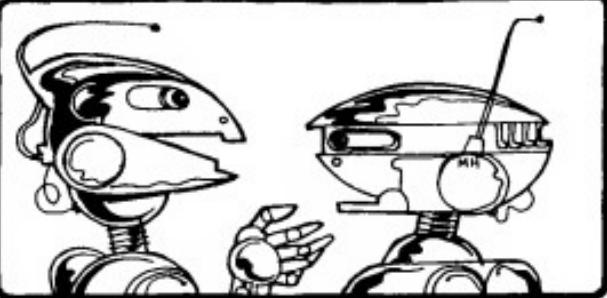
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**JOHN
D.
BERRY**

**the
Clubhouse**



THE TIME HAS COME for a very short essay on the subject of fanzine reviewing. There are no other fanzine review columns in the professional magazines, a fact which has burdened me with an inordinate sense of responsibility while writing this column. If this is the only source of professional criticism and evaluation that the fanzine field has, then I must seriously weigh the consequences of each remark I make. The only major furor created by anything said in this column came as a result of my condemnation of Richard Geis's *Science Fiction Review* nearly two years ago, and that review, although couched in overly personal terms, is one that I stick by. But the littlest things can snowball in the eyes of a fanneditor: in the early days of this column I appended capsule comments to each of the fanzine listings at the back, but when editors began taking umbrage at my attempts to characterize their fanzines in a few words, I dropped the capsule comments except for special cases. I have very little interest in writing dry, "objective" prose, nor in trying to find something nice to say about everything; this column has accordingly been a reflection through my eyes of the changing fanzine scene, with all the breadth and the limitations of my own vision.

But what is a fanzine review column? It can be a mere buyer's guide, recording the fanzines available and describing

them. Because *The Clubhouse* serves as an introduction to fandom for many of you, the column has to describe what's going on. But most reviewers insist on accomplishing more than that. A fanzine review is a pretty ephemeral thing, of no interest once the next issue appears, unless the review embodies some principle of fandom that you will want to refer back to in times to come. A review which says something that can always be applied will be worth just as much if you read it ten years after it was written as if you read it over the writer's shoulder. Now that's a rigorous test to apply to any fanzine review, and many in this column have failed. But that is what I try to do every time I write a new column. It was this goal that dictated the form: two or three fanzines reviewed at length, sometimes with several issues considered at once, and the rest of the fanzines that had come in bunched in a list at the back.

Many different kinds of reviews can be written with these goals. Terry Carr used to write reviews that tied each fanzine into its historical and cultural context within fandom. Ted White used to write analytical reviews that spread the workings of a fanzine bare before its editor and the readers. Greg Benford, more recently than the other two, used to write pithy distillations of the essence of each fanzine. But Greg pointed out to me, just before he stopped writing his fanzine

review column, how few original things there really are to say. You make a few observations, and draw a few conclusions, that haven't been made or drawn before, then you have nothing left but to record the fanzines that are coming out and describe them. A buyer's guide is of supreme usefulness to a buyer, but to a fanzine reviewer it isn't very interesting to write.

There's another liability to writing fanzine reviews for years. You begin to look at all the fanzines you receive with an eye to finding something to say about them. You have to be critical, to evaluate each one. It isn't much fun after a while.

So, because of all I've said above, this is the last installment of *The Clubhouse* that I'm going to write. From now on, if you send me your fanzine it will be because you want me to see it, not because you want it to be reviewed in *AMAZING*. Perhaps now I'll be able to read them all.

COWBOY ANGEL #1, March, 1972; 25¢; irregular, from Doug Carroll, 407 College Ave., Columbia, MO. 65201; 22 pp., mimeographed.

Fannish centers arise in the most unlikely places, and no one is able to predict what obscure minor city will spring into notoriety next. Certain cosmopolitan areas, such as New York and Los Angeles, seem bound to sustain a large number of fans forever; the personalities may change, and there may be lulls when hardly anyone is publishing, but there are always enough fans around that something is going on. But who knows what causes the sudden blossoming of fannish culture in an unexceptional college town like Columbia, Mo.?

Columbia fandom is a phenomenon of the last year, at least as far as the rest of fandom is concerned. I guess the seeds

around which the new center grew were Hank and Lesleigh Luttrell, who moved there after a long involvement with the active fandom in nearby St. Louis that created the 1969 worldcon. Hank and Lesleigh have been publishing their fanzine, *Starling*, on a regular basis for quite some time now, and it's a well-respected fanzine with a strong slant toward popular culture. Another long-time fan, Creath Thorne, moved to Columbia more recently, and his collection has been instrumental in the fannish education of newer local fans. The amazing thing is the number of local fans who have turned up. Terry Hughes started up *Mota* last year and in (so far) four issues has turned it into one of the most pleasant, energetic fanzines coming out. ("Sloppy, but good," it has been described by Calvin Demmon.) Jim Turner, the immense Civil War buff and science fiction fan whose recent article on the virtues of being an alcoholic left me entertained but astounded, and who is the stuff of legend to the other Columbia fans, has started a fanzine of his own, *Godfrey Daniel*. Even Creath Thorne, whose fanactivity is often brilliant but seldom prolific, has published the first issue of another fanzine. (His last fanzine lasted two issues, which came out a year apart.) The feverish enthusiasm of Columbia fans seems to pull in everyone it comes into contact with it.

Which brings us to *Cowboy Angel*. Doug Carroll is Terry Hughes's roommate, and as far as I know Doug has had no more reason to get involved in fandom than that. He seems to have picked up the fever, though, and with some prodding from the other members of Columbia fandom, he has produced a fanzine. It is almost a distillation of The Columbia Fanzine, with articles by about half the fans in the group. A lot of the writing in this issue is tied in with Columbia fandom; if the subject is not

the habits and activities of the local fans, as in Rick Stooker's tale of meeting Jim Turner, the article is full of references to them anyway.

Terry Hughes's piece, called "Illegal Smiles," is all about the free entertainment available on tv, not in the regular programming, but in the commercials. With budgets of many thousands of dollars for a single minute or less, the commercials are the most concentrated use of money in television, and in recent years some of them have exhibited a high degree of creativity. Everybody who watches tv has at least one or two favorite commercials, even if he can't remember what they're advertising. What Terry has done is bring to our attention the development of commercials over the past several years. The whole idea is very much in keeping with the tendency of Columbia fans to write historical and critical articles in their fanzines about phenomena in other media, such as the recent articles in *Starling* on comics and Jim Turner's comments in both *Starling* and *Cowboy Angel* about country music. To be well done, which means able to interest someone who is not familiar with what you're talking about, this kind of article has to describe its examples more extensively than a quick reference. Terry does attempt such descriptions, but not all of them convey a sharp visual image of the original, except to someone who has already seen them. Terry is a happy, fluent writer, who usually sounds in print exactly as though he were carrying on a conversation with you. He's got talent and plenty of things to say, but he hasn't buckled down yet to rereading what he's written and editing it into *written*, as opposed to spoken form. Let me quote most of a paragraph from "Illegal Smiles":

"I hope you're still with me because now we're getting to the animation de-

lights. The big cause of the surge of great animation was the Beatles' movie *Yellow Submarine*. Beatles' movies always have a big impact on the advertising scene, since they vie for the coins of the youth today. *A Hard Day's Night* had lots of influence on the music in ads and in angle shot-quick cut-real people ads. Of course, the first company to use this sophisticated animation in advertising was 7-Up, the Uncola. Their first two ads spouting the Uncola line featured a combination of the real-people-in-funny-costumes effect of *Magical Mystery Tour* and the colorful animation of *Yellow Submarine*. The early ones used very quick changes, figures distorting and changing before your very eyes. They used very luminous and eye-catching colors. They also switched from art style to art style within the same commercial much like the movie itself. There is one of a 7-Up bottle that unfolds like a flower and changes into a lovely fairy . . . er, better make that 'winged nymph'! But most of their animated commercials were done in just one style, but a different style for each ad. One of my favorites is the intermission one. It has dancing and singing Uncola cans that have an intermission in their show and walk out past the audience and the audience is made up of funny animals: hippos, rabbits, mice, etc. Fine indeed."

This is perfectly straightforward writing, and it flows as Terry's thoughts flow, but it needs a little tinkering before it will be good writing. The small bit of effort needed to eliminate the second "but" in the sentence about styles would make it flow better for the reader because he wouldn't have to stop and notice the error. Why does almost every sentence start with a simple subject and verb? After a while it sounds monotonous, and most readers don't even understand why. What Terry doesn't seem to pay enough attention to is the rhythm of words and sen-

tences, and the use of the right words for the precise effect he wants. I mention this not to hold him up as an example, since I'm sure Terry Hughes will continue to improve his writing until it's excellent, but because errors of lack-of-thought are terribly common in fanwriting today. Run-on sentences, misspellings, sloppy use of words—all of these detract from the pleasure with which another fan will read what you've written, and from his judgment of you, for fandom is a culture in which the real mark of your worth is your ability to communicate on paper.

The best writing in *Cowboy Angel* comes from the editor, who has a facility for putting a funny twist on the ends of his paragraphs. His material describes his life as a museum guard, an occupation that seems to provide him with plenty of little observations and anecdotes. Let's quote another paragraph.

"When some type of chore does rear its ugly head it can usually be diverted upon some poor underling by saying, 'Let John do it.' If this doesn't work one must make the best of the situation. Suppose one is marking stone chips some sloppy Indian left lying around 800 years ago. This is done with pen and ink. The metal head splinters on the stone, the ink covers hands and clothes and totally blots the chips, and one's eyes recede into the aching head. The catalog number is usually about this long—1234567890—and the chips are usually this long—123. This presents problems, but the solution is obvious. Wait until a group of 75 shrieking devils known as children enter. Then leave for a pepsi. When you return all the little rocks will be gone."

There are three more pieces in this issue, two of which come from Columbia fandom. The local legend, Jim Turner, writes in a slightly acid style about country music, with a disparaging introduction about the people who want

to "get back to the country." Jim will never be a true caustic critic, though; it's too obvious that he likes people. His legendary aspects are the subject of Rick Stooker's "The Shit Out of Igor," which begins innocently enough as an account of his first visit to the local sf club and slowly turns into a parody of Lovecraft. It's amusing to watch the transition, but I've never really understood the fascination so many people have with Lovecraft parodies. Rick Stooker is another talented writer, though.

Tucked in among all these articles by Columbia fans is a half-page satirical book review by Angus Taylor, Canadian fandom's high-powered intellect. "A Ripping Review, by Anonymous," takes on Robert Silverberg for writing satire—which makes the review a double-edged piece at least.

The appearance of *Cowboy Angel* is happily sloppy, with a lot of funky comix-style cartooning. The one unsloppy part is the front cover, by Carolyn Lindsey, with her heavy-line rendering of an angelic child with an unmistakable cowboy look. Doug has produced a pleasant, unpretentious fanzine, and for this last review I'm going to do without the little one-phrase evaluation I usually add on the end.

SPACED OUT LIBRARY: "Could you kindly mention in your fanzine review column in AMAZING that the Spaced Out Library (c/o Toronto Public Libraries, 566 Palmerston Avenue, Toronto, Ontario, Canada) is interested in receiving current fanzines. Here's a way fanneds can be assured that their publications will be preserved for future fannish generations. The Library also hopes to produce an index of current fanzines fairly soon, and of course, the more fanzines it receives the more accurate the index will be. The Library was founded in 1970, and is

based upon Judith Merril's donation of some 3,000 sf-fantasy-fan related items." I've been to the Spaced Out Library, and it's a fascinating place to browse if you happen to be in Toronto. It seems a good place to preserve a file of your fanzine.

Other Fanzines:

As always, the fanzines marked with an asterisk (*) are especially recommended.

MUNDAC #1, April, 1972; 25¢; irregular, from Rick Stooker, 1205 Logan St., Alton, Ill. 62002; 12 pp., mimeographed.

MAYA #3, March, 1972; 10p or 30¢; irregular, from Ian Maule, 59, Windsor Terrace, South Gosforth, Newcastle on Tyne, NE3, IYL, UNITED KINGDOM; 40 pp., mimeographed.

*SANDWORM 16-7, Winter & Spring, 1972; 50¢; irregular, from Bob Vardeman, PO Box 11352, Albuquerque, NM 87112; 28 & 32pp., respectively, mimeographed.

STANLEY 9-10, no dates; available for the asking, I guess; irregular but frequent, from Stephen Goble, PO Box 4606, College Station, Tx. 77840; 6 & 8 pp., respectively, offset.

*LOCUS #108, 110-2, Feb.-Apr., 1972; 12/\$3, 26/\$6, with different rates in other countries; biweekly, from Charlie & Dena Brown, 2078 Anthony Ave., Bronx, NY 10457; 10, 22, 10, & 10 pp., respectively, mimeographed. The newszine of fandom and the professional sf world. Please look elsewhere for a different address before writing them; Charlie & Dena are about to move to San Francisco.

NEXUS #6, Jan., 1972; 25¢; irregular, from Lane Lambert, Rt. 2 Bruce Rd., Boaz, AL 35957; 30 pp., mimeographed.

*SF COMMENTARY #23, 25, Sept. & Dec., 1971; 9/\$3 surface mail, 9/\$8 air-mail, in US, or 9/\$3A in Australia; irregular, from Bruce R. Gillespie, GPO Box

5195AA, Melbourne, Victoria 3001, AUSTRALIA (American Agents: Charlie & Dena Brown, address under LOCUS); 50 pp. each, mimeographed. Sf discussion.

*POTLATCH #8, Feb., 1972; 35¢ (no subscriptions); monthly from Joyce Katz, 59 Livingston St., Apt. 6-B, Brooklyn, NY 11201; 22 pp., mimeographed. One of the very best of fannish fanzines.

*CIPHER #6, Feb., 1972; 35¢ or 3/\$1; bimonthly, from Chris Couch, (school address) 402 John Jay, Columbia University, New York, NY 10027, or (home address) Route 2, Box 889, Arnold, MO. 63010; 22 pp., mimeographed.

SIRRUISH #9, May, 1972; 50¢ (no more than two issues at once); irregular, from Railee Bothman, 1300 West Adams, Kirkwood, MO. 63122; 24 pp., offset. The other editors are Leigh Couch, Donn Brazier, Jon Yaffe, Joe Butler, and Genie Yaffe. Revived after a long absence.

*OUTWORLDS 3.2, 3.3, Winter & Spring, 1972; 60¢ or 4/\$2; irregular, from Bill Bowers, PO Box 87, Barberton, OH 44203; 24 pp. each, mimeographed.

A GLOSSARY OF THE ELDARIN TONGUES 1972; 70¢; not a periodical, from James D. Allan, 144 Mary St., Orillia, Ont., CANADA; 52 pp., offset. For those with a philological interest in *The Lord of the Rings*.

GREEN DRAGON #13, Feb., 1972; 20¢ or free to members; irregular, from the Tolkien Society of America, Belknap College, Center Harbor, NY 03226; 2 pp., mimeographed. Newsletter.

COR SERPENTIS #2, Aug., 1971 (but mailed out in Dec., it says here); no price listed; irregular, from Carey Handfield, 2 Banoon Rd., South Eltham, Victoria 3095, AUSTRALIA; 30 pp., mimeographed. The magazine of the Monash University Science Fiction Association.

*SCOTTISHE #60, Sept., 1971; 15p or 10/\$3; irregular, from Ethel Lindsay, 6 Langley Ave., Surbiton, Surrey, KT6

(Continued on page 108)
AMAZING

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(Continued from page 5)

there'll be masses of money left over afterwards.

"Actually, though, I get the impression that most of your remarks are aimed at committees other than ours. Perhaps that's just wishful thinking on my part, but I do want you to be aware of a few of the things we're trying to do to give supporting and attending members their money's worth. (Along the same lines, we're planning two widely separate banquet meals at completely different costs. The cheaper meal will allow as many people as possible to attend the banquet without bankrupting themselves and will still be quite palatable, the Royal York having a tremendous reputation for meals, even at the lower end of the price scale.) We quite shocked the convention manager, by the way we kept insisting we were trying to give things to our attendees, not rip them off for all they were worth."

MIKE GLICKSOHN'S LAST SENTENCE sums up, I think, the attitude which has distinguished most Worldcons from the average mundane convention—and reflects my own point of view quite well.

Likewise, a number of the plans and proposals he's mentioned strike me as innovative and worth copying by future Worldcon committees. And the fact of the matter is that if every Worldcon committee (or potential committee) held such responsible attitudes this entire series of editorials would be unnecessary.

However, his letter underscores one of the dangers of the presently still expanding size of Worldcons. The hotel, he says, was "the only one in the city with the facilities we needed when we decided on the bid." He is speaking of Toronto, a large, cosmopolitan city that is the equal of most of the major cities in this country—any but New York, Chicago, and perhaps one or two others. The

problem faced in Toronto is one which fans considering hosting a Worldcon in most cities are running up against: a very limited number of hotels which are suited for a large World SF Convention.

Quite obviously, had Toronto half a dozen hotels the equal of the Royal York, competition would have forced that hotel into a better position for the negotiation of such matters as room rates, additional personnel on the movie floor at night (a new one on me!), etc. In cities where there are hotels which do compete with each other for our convention, a number of the aspects mentioned in Mike's letter would present no problem, or much less of one. But as the size of the Worldcon continues to grow and convention meeting space requirements become greater and greater, the number of suitable hotels in *any* city becomes fewer and fewer. Until sooner or later there is only one. When that happens, the bargaining positions of prospective Worldcon committees become poorer, and they are faced with "rules" and "requirements" like those mentioned by Mike which exist simply to featherbed profits for the hotel or its unions.

This is, of course, but one of the many problems attendant to the Bigger & Better syndrome.

Another problem is the accumulation-by-tradition of expensive services, such as the all-night movies. All-night movies are a relatively recent development and, from my own point of view, as much a liability as they are an asset. By Glicksohn's account, they will cost the convention some \$1500.00 (if they are shown three nights; I don't know if this is the actual schedule) at Toronto. In other cities where hotel "rules" differ, where non-union projectionists can be brought in and hotel staff is not required, they may cost considerably less—and probably did, when they were inaugu-

rated a few years ago. But now each prospective committee must take this new "traditional" requirement into account in their planning—whether they really want to or not!

It will astonish recent con-goers, but for more than twenty-five years Worldcons went without all-night movies without even noticing their lack. It is more than possible that if costs of these movies continue to escalate con-goers will do without them again at future conventions. As I said, to me this would be a small loss—the justification for the movies is that they supply an event and floor-space for con-attendees who have nothing else to do with themselves at night. Traditionally, the evening (and early morning) hours are occupied with parties—some private, most public and advertised (such as those parties hosted by fans bidding for future conventions and looking for good will)—and I find it difficult to believe that under such circumstances most attendees couldn't find something to do with themselves if movies weren't available. Still, if all-night movies don't unduly drain the convention's purse and manpower, who could object to them, you ask?

The question I ask in return is, Are these movies drawing additional attendees? If they are, would they come if there weren't any all-night movies? And if they wouldn't, are they really needed? Sooner or later these questions will have to be answered—and that day will probably come when the cost exceeds the returns.

Mike Glicksohn's letter indicates the scope of problems which face the Worldcon committee today—and the individuality of each set of problems to be dealt with, from Worldcon to Worldcon.

I'VE ONLY RECENTLY RETURNED from New York and the aforementioned SFWA Nebula Awards Banquet. On the whole

I thought the banquet this year (in New York, anyway; there are two others, one in the south, one on the west coast) was better run than previously, prefaced as it was by a day of programs and lacking the usual after-dinner speeches.

It grieves me to report, however, that Ursula K. Le Guin's *The Lathe of Heaven*, published here last year, did not win the Nebula for best novel. I suppose this was inevitable—her *The Left Hand of Darkness* had won the year before, and most voters probably wanted to spread the awards around—despite the disappointment of those of us who were associated with its publication. The novel *did* place second, however—to Bob Silverberg's *A Time of Changes*. With that we shall have to be content, at least until the announcement of the Hugo award winners.

Speaking of the Hugos, this year AMAZING SF finds itself competing for the Best Magazine of 1971 award with FANTASTIC STORIES. This will be AMAZING's third nomination in as many years, but FANTASTIC's first ever. Naturally, we're all waiting with bated breath to learn the results—and hoping that with both magazines in the running the votes won't be split to the detriment of each. By the time you read this the awards will be only a month or so away, but it's mid-May as I write this, and the suspense (as usual) is murderous. I'll inform you of the results in the first issue after they're available (the Hugos are awarded at the Worldcon, over Labor Day weekend).

I REALLY SHOULD MENTION one other convention: The Bubonicon, a small (less than one hundred in attendance last year) regional conference which is being held in Albuquerque, New Mexico, the weekend before Labor Day weekend and the LACON. This year I've been asked to be Pro Guest of Honor and (by some coincidence) Mike Glicksohn (the very same

Mike Glicksohn whose letter appears earlier in this editorial) will be the Fan Guest of Honor. It's a small world.

If you're planning to drive out to Los Angeles anyway, and would like to stop over the previous weekend in Albuquerque for a relaxed, minimally programmed

get-together with people like myself, drop a note to Bob Vardeman, P.O.Box 11352, Albuquerque, N.M. 87112 and ask him for details. It should be an enjoyable convention.

—Ted White

(Continued from page 75)

"She is well, *senhor*. Do not fear."

"Good. Where are we, anyway. I mean . . ."

"Mozambique, *senhor*."

"Huh?"

"Portuguese East Africa."

"Oh. You haven't got a cigarette, have you? Tobacco, I mean."

The man smiled and nodded. He

drew one from a pack in his shirt pocket, lit and passed it to Joe.

Joe took a deep drag and exhaled the smoke through his nostrils. "How do you say 'thanks' in Portuguese?"

"It is '*obrigado*'."

Joe patted the Triple-E that still held him, and thought about a certain one-armed bandit. "Thanks . . . *obrigado!*"

—KARL T. PFLOCK.

(Continued from page 85)

The jolt, when it came, was less severe than he had expected and a few seconds later he was falling at the same speed as before. He looked upwards and saw—instead of a taut canopy—a fluttering bunch of unconnected nylon segments.

And, too late, he remembered the threat of the Parachute Stitchers and Packers Union to carry out disruptive action in support of their demand for longer vacations.

"Communists!" he screamed. "You lousy Red anarchist ba . . ."

—BOB SHAW

(Continued from page 104)

6QL, UNITED KINGDOM; 28 pp., mimeographed. US Agent: Andrew Porter, 55 Pineapple St., Apt. 3-J, Brooklyn, NY 11201.

PLACEBO #2, Jan., 1972; 35¢ or 3/\$1; quarterly, from Moshe Feder, 142-34 Booth Memorial Ave., Flushing, NY 11355, and Barry Smotroff, 147-53 71st Road, Flushing, NY 11367; 46 pp., mimeographed.

*ENERGUMEN #11, March, 1972; 75¢ or 3/\$2 (*no checks or US stamps*); quarterly, from Mike & Susan Glicksohn, 32 Maynard Ave., #205, Toronto 156, Ont., CANADA; 56 pp., mimeographed.

PULP #3, Summer, 1971; \$1.25; quarterly, from Steve Riley, 18 Norman Dr., Framingham, MA 01701; 42 pp., offset.

THE ANYTHING THING #1, April, 1972; no price; no schedule, from Frank Balazs, 19 High St., Croton-on-Hudson, NY 10520; 6 pp., xeroxed. Published as an introduction to fandom.

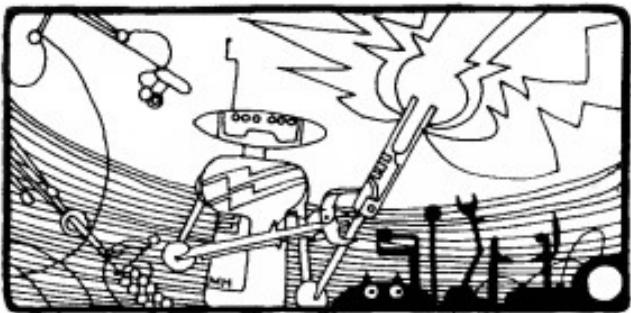
AFAN #3, Spring, 1972; not available for money; irregular, from Dave Hulvey, Rt. 1, Box 198, Harrisonburg, VA 22801; 32 pp., mimeographed.

HPL, 1972; \$3; not a periodical, from Meade & Penny Frierson, PO Box 9032, Crestline Hts., Birmingham, AL 35213; 144 pp., offset. A tribute to Howard Phillips Lovecraft.

TITLE #2, May, 1972; 4/\$1; irregular, from Donn Brazier, 1455 Fawnvalley Drive, St. Louis, 63131; 12 pp., mimeographed.

—JOHN D. BERRY

...OR SO YOU SAY



Letters intended for publication should be typed, double-spaced, on one side of each sheet of paper, and addressed to Or So You Say, P.O. Box 409, Falls Church, Va., 22046.

Editor Ted White:

These are the first copies of AMAZING I've seen in many years, as I haven't been reading or had much opportunity to keep up with the field. I was as usual amazed and put out that anyone should say Palmer wrote Shaver's stories, as the facts were quite the other way round . . . many of my stories were published under Palmer's pen names for which he was already known. Some AMAZINGS were almost all Shaver, under different names. Palmer once sold one of my ms. under his own name to another sci-fic zine because "He didn't have time to write one". . . never mind.

But I didn't start this letter to gripe about Palmer . . . I always forgave him as his ego demanded the idea that he say and do what he did, and I always thought a lot of him.

I do wish people like Sam Moskovitz would get their facts straight in the end, but they never do.

I have always thought that science fiction would do better if they could once and for all realize their best function is extrapolation on the practical side . . .

and would illustrate and harp on this side of their function.

For instance . . . most of my stories involve the use of the telaug . . . a telepathic augmentive device like radio that uses the same waves . . . same wave lengths . . . generated by the mind itself. These wave lengths are well known and utilized in the hospital encephalograph. Almost any radio engineer could build the telaug . . . if he realized that the telaug is called WET RADIO by those who use it under cover of the secrecy in this field.

"Wet radio" uses wave lengths that propagate best in moisture, in water . . . and the encephalograph itself only functions when the wire ends are taped to the scalp to record the five different waves in the brain.

Wet radio could be marketed in small transistor sizes for use by swimmers . . . for instance . . . boy and girl in swimming could use the device to read each others minds while in the water . . . but it wouldn't function on land in the air without the addition of a lot of power to overcome air resistance.

The ancient civilizations were based upon and knit together by universal use of this particular application of science to the reading of minds . . . and to the control of minds in police work . . . etc.

I have always thought science fiction that goes in for fantasy rather than the

extrapolation of such simple things as wet radio into the immense world wide road to thought power that it could be . . . once was . . . is silly science fiction.

Man's failures in . . . in this era . . . are due to his lack of communication and understanding. Each mind is sealed into its own skull . . . and understanding and communication from one mind to the other is a crippled and malfunctioning phenomena of utter misunderstanding.

In the previous eras of civilization . . . which existed seven times over, contrary to our pundits . . . their greatness came from the hooking of the mind of man one to another to give computer-like results. This is an unconscious hook-up that grows out of the use of wet radio . . . each mind becomes an unconscious receiver and also a contributor to the synthetic mass-mind . . . no matter what problem the mind is working on, the answer comes from other minds that have already solved the problem. This kind of utter mental power is perfectly feasible with today's technology . . . if our science explored wet radio and marketed some of the devices that would grow out of such exploration.

Mind power comes from the use of the telaug like square root comes from mathematics . . . automatically . . . and today it is already used secretly and unknown to the masses. That is . . . when you seat seven scientists around such a device and hook it up . . . you have seven times seven . . . or the power of 49 minds.

Each one knows what the other knows instantly as his mind seeks for answers . . . and the combining of these living memory banks gives . . . like square root . . . a much greater result than is expected first glance.

The use of wet radio is perfectly possible. Any radio engineer could build one . . . he already knows the wave lengths from the encephalograph. Its general use

would be infinitely more valuable to man's future than any of our modern triumphs . . . like the dreams of atomic power which carries with it the threat of utter pollution.

We are already almost completely dominated mentally by the hidden use of the telaug . . . as I have described in my stories which you apparently found so unacceptable.

Open use of the telaug would *free* us from this hidden domination.

I think science fiction functions best when it specializes in such simpler forms of extrapolation as the possibilities in wet radio.

It also happens to be our only hope of freeing ourselves from the hidden mental domination which now enslaves us.

I strongly suspect your antipathies to this field, as to Shaver, arise from precisely such uses of the telaug unknown to you. Which is what I meant . . . "Why don't you try it, and find out . . ." in my former letter. If you consciously struggled against this mental manipulation from which we all suffer . . . you would find out what the consequences are. You would also make a lot of friends you didn't know existed before.

It is a fact of life known to many that earth peoples are a conditioned peoples . . . with their mind's eyes blinded to the realities of life and our subservience to space . . . the UFO we insist aren't there at all.

This conditioning of whole populations is perfectly feasible with powerful telaug installations working like radio stations and broadcasting constantly . . . to the unconscious parts of the mind that motivate our actions.

It is also a sad fact of the life of our planet . . . just as the death of Gus Grissom in his oxygen capsule is a sad exam-

ple of the sort of sabotage that keeps man out of space.

Not to struggle against this sabotage is like not swimming when you fall overboard . . . the result is predictable.

From my point of view you aren't trying to swim.

(To me you are like Gus Grissom . . . who didn't realize that nearly all the many kinds of materials in that capsule would burst spontaneously into flame when the oxygen atmosphere reached a certain pressure. This causing an iron wire to burn spontaneously in oxygen in a bell jar is routine in all high school physics classes, you know . . . which is where I saw it first myself. Yet Gus didn't know this when he lugged a store-bought mattress into that capsule . . . and it wasn't the mattress that burst out first into flame. Gus Grissom and his crew died of pure negligence . . . for almost any physicist could have told them exactly what would happen. In fact, any high school kid could have told them . . . but apparently no-one even asked.

(These three deaths were due to mental sabotage . . . manipulation to death.)

However, I shouldn't point the finger at you since I haven't been reading your zine and don't really know what has been in it or what you have to say on any subject.

I would like to interest you in rock books.

Rock books litter our soil all over the world . . . the one I've been photographing most (at 4x to 8x) is one sent me from Viet Nam. Rock books were manufactured by the first great civilization of earth as a kind of solid movie film . . . and when *sawed* these little pictures are revealed (though in a mutilated condition due to cross-sectioning of their 3-di thicknesses) and can be photo'd.

Such research work, to my mind, should be the first consideration of

science fiction . . . as in the old Gernsback zines . . . there was always a section devoted to new applications of science to life. Such a section points up the practical functions of science fiction as a leavener of the processes of thought toward invention.

Anyway, rock books are available to any one with a curious eye who looks for odd stones. They will give up their secrets to just a little actual work with lens and lights . . . and this is what I occupy my days with (as well as my nights—Nights are dark-room time . . . as I use my shop for a dark room . . . and it has to be dark).

Photos from rock books are utterly fascinating, revealing an endlessly involved life of a people utterly different from ourselves. Rock books are the sort of thing science fiction tries to dream up . . . and there they are . . . ignored beneath our feet. Let me show you . . . what's in them.

Previous civilizations seemed beyond modern ideas of overpopulation . . . and they supported their teeming millions with know-how. *Their* internal combustion engines were labeled "For Use ONLY in Unpopulated areas" . . . and a motorist trying to drive one of our cars down one of their highways would have gotten about ten feet before being arrested.

But saying such things about our previous civilizations is quite useless when you can't even get a so-superior editor to look at your photos, isn't it? Rock books are full of pictures of complex gadgetry . . . and photographing them *should* be a first on every sci-fan's priority list . . . and I can't even get round to showing them how its done. If you can be interested in spite of your conditioning, let me know and I'll bother.

RICHARD S. SHAVER
Rock House Studio

Only Source of Pre-Deluge Artifacts
Summit, Arkansas, 72677

Mr. Shaver enclosed with his letter three photographs, ostensibly illustrating his point about the "rock books." Unfortunately, we cannot reproduce them here, but his description of one is "a photo of space gear . . . man in space suit . . . gives a number of details our own astronauts could use." The next "shows a human mermaid, as well as three other faces." The third is not identified. About all I can say about them is that I have searched them carefully to find the details he describes, and they are not apparent to me. My judgment is that these photographs are much like Rorschach ink-blobs—open to a multitude of subjective interpretations. It is Mr. Shaver's opinion that my skepticism is the result of mind-control. I disagree, of course. My opinion of The Shaver Mystery is a matter of record (see our November, 1971 issue and our May, 1971 issue), and one which I feel Mr. Shaver's letters amply support. The letter above, by the way, is uncut; the punctuation (including ellipses) is his own.—TW

Dear Ted,

The April FANTASTIC and May AMAZING both arrived in Hartford City today (are you publishing them simultaneously now or is this another example of the efficiency of our distribution system?) [The latter.—TW] and the orange and green covers were quite appropriate for St. Patrick's Day.

Whoa, now. Nobody tried to put anything over on you in "By The Book". What happened was that after one editor suggested we add some topicality and a few others gave us the "It's a nice little story, but . . ." routine, we said what the hell and rewrote it to what appeared to be a more commercial format. And the next editor to get it was you, and you

bought it. Maybe you would have anyway, and maybe not. Coupling our experience with this story, one of your competitor's requests to Juanita to make one of her stories more "relevant" (and after she did, he bought it), and the number of imitation race-question and Vietnam stories in the sf mags these days, I'm definitely of the opinion that beginning authors in particular need to have large doses of "relevancy" in their fiction if they want to sell much of it—and I deplore the fact. Of course there are exceptions; most editors will recognize a really fine story and buy it whether it's topical or not. But apparently damned few of them will do the same for average quality fiction. Which is more or less what I said in the fanzine John Robinson quotes; I wasn't casting any aspersions on any specific editor. (What I was trying to do was produce a theory as to why so much science fiction is so dull these days.)

Prescott got one letter about his science fiction article which he at least deigned to reply to personally; one of our Indiana fans happens to be mildly acquainted with him. Of course, his reply was of the "My good woman, you are disputing with God" category, but he did at least read the complaint. He's undoubtedly too pompous to learn anything from it, however.

I didn't particularly notice last issue's cover, but then I buy every issue anyway; the only thing I look for in a cover is whether I've seen it before or not.

ROBERT COULSON

Route 3
Hartford City, IN 47348

Not having seen the fanzine article in question, I apparently misread the quotes given by Robinson. "By The Book" co-author Gene DeWeese also wrote (in a letter not for publication) to say much the same, adding that he preferred the original

story, sans quotes, which was titled "Artifact." This editor's biases do not include shoe-horned "relevance," and I regret not having had the opportunity to see the original story. I might add that if each of you felt yourselves to be pandering to editorial tastes in making the story "relevant," you would have been much better advised not to have done so—especially since you didn't send the revised version to any of the editors who had previously rejected it or suggested "topicality".—TW

Dear Mr. White:

Would you kindly pass along the following to your readers?

Phlogiston, a humor magazine now entering its second year, is expanding and is now in the market for well-written, imaginative sf and fantasy short shorts of up to 1,000 words. We would like to avoid machine-filled hard core material in favor of more whimsical (that is not to say supercilious) pieces. This policy applies to treatment rather than subject matter for, from the editorial standpoint of *Phlogiston* at least, the end of the world will as likely find us all perishing from some gross folly as from some potent evil.

We will make a small token payment for any material used and will send contributors' copies without fail.

Thank you very much.

THOMAS L. NADEAU, Editor

1213 A University Ave

Berkeley, CA 94702

PS: A SASE *must* accompany all submissions.

Dear Ted,

Very close to starting my travels now. I leave for Syracuse tomorrow morning, for New York Wednesday morning, and for Amsterdam the following Tuesday evening. Since I'll be out of touch for nearly half a year—more or less out of touch, anyway—I figured to close things

off with an official letter on the March AMAZING.

The most, you'll pardon the expression, amazing thing I've seen in recent days has been the latest happening in a fellow prozine, *Galaxy*. The latest "innovation" is what is essentially a *paid* lettercolumn; titled "Directions," the column pays I believe \$10 for each lead letter, and some lesser sum for other material. Like any good fan, I immediately wrote them a letter, telling why I thought the column to which I was writing the letter was a poor idea. The wildest thing would be for them to publish it!

Not to dwell on it, but the cover this time is as good as any you've had, and definitely one of the more enjoyable of any of the Bodé/Todd collaborations. Another striking cover, one standing violently out from the mess of prozines, digests, and children's magazines in the corner of the modern newsstand where they hide science fiction magazines these days. I still always try to maneuver the prozines around a little bit, take them out from under *Coronet*, etc. Probably good psychology for me more than anything else—but yet I do see the copies slowly disappear when I put them on top.

Again, not to make a big issue, but I do want to register strong approval to the no-reprint decision. I think you've demonstrated quite clearly that you can obtain a high quality of material, both original novels and short work, with the eagerly-awaited Shaw material only the most recent. With this material available, it's silly to still include the far inferior reprint material.

Also, very high praise to your review of *I Think We're All Bozos on This Bus* in the book review section. Perhaps this is what you meant in a previous editorial by "looking for review material to give the greatest benefit to your audience," and I certainly agree with your idea be-

hind it. Here is an undoubtedly sf work, a work of great talent and of interest to virtually any sf fan; but unfortunately, because of the current cultural divisions and the current record-selling situation, I'm certain nearly 90% of your readers will be entirely unfamiliar with the group and the album. By printing such a review, you can open an entirely new world to these people. So while I disagree with you about a few specific points—and I feel the group is trying a bit too hard in spots on this album—I applaud your review strongly.

At the same time, I wonder at the value of the dual reviews of *Chronocules*. For myself alone, I found this interesting and useful, but looking at the total reader situation, I'm not so sure. I'm active in fandom, and so have access to a great deal of sf review and criticism; the prozine columns serve as addition to my fanzine reading, so I can really enjoy a column like this one. But most readers don't have these opportunities to read a great deal of criticism—they only have the spare and infrequent prozine review columns. With such a limited outlook and such a very limited amount of space in all the prozines for reviews, is it really best to devote this much space to a single book? I seriously question this, and I think I'd rather see the space spent in review of another volume instead.

Michael Walsh in the lettercolumn comments on similarities between "The Second Trip" and *The Demolished Man*; I've just finished rereading *To Live Again*, and was once again struck by the parallels there with the Bester novel. *TLA* is perhaps my favorite single Silverberg novel anyway, and I hope it was only the exigencies of the game that it didn't pick up at least a Hugo nomination (i.e. *Up the Line* came out in the magazines and pb the same year, where *TLA* was only in hardcover). Here the similarities are

even stronger to my mind—Roditis and Reich are immensely similar characters, in similar positions, in a similar social structure—with even a similar fast-paced, very slick style, and the beautiful persona idea replacing the telepathy of the Bester novel. Just musing, of course—as I said, *TLA* is one of my favorite Silverberg novels, wherever it originally "came" from.

Walsh also comments on time-travel stories, and speaks of the two major Heinlein stories as the definitive time-travel paradox tales. Perhaps not any longer; I've just read a very fine story by Alex and Phyllis Eisenstein called "The Trouble With Time" (not their original title) in Silverberg's *New Dimensions I* which adds a whole "new dimension" to the time-travel question. Fascinating idea there, and a very sharp little story, too. Highly recommended to all time-travel freaks especially.

JERRY LAPIDUS
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Pittsford, N.Y. 14534

We've run contradictory reviews before, although not always in the same issue. They serve as good reminders that none of us is always absolutely right in our critical judgments—and that more than one point of view is likely. Inasmuch as our readership encompasses a broad spectrum of tastes, two reviews like those of Chronocules may be more help to each reader in making up his mind about a book than a single-viewpoint review could be. The difficulty is that in order to do a fair and comprehensive job on all the sf books now coming out we'd need as many pages as this magazine has, and a large full-time staff of reviewers. Obviously neither is possible, so we do the best we can under the circumstances in which we find ourselves.—TW

Dear Ted,

I'm glad to see the announcement of the end of the reprints in *AMAZING* not because I don't care for the older stuff, but because the material that has been reprinted isn't worth it. I bought all the Joe Ross issues (April 67 was my introduction to the magazine) for the reprints, because the new material seldom even achieved mediocrity (though surprisingly there were some good new things in *FANTASTIC*) and I didn't start to get irritated by the magazine until the Harrison and especially the Malzberg issues. These two editors did manage to procure better new material, but they seemed to be picking reprints on basis of length rather than quality, because seldom did I manage to finish more than one out of three. This meant that more than half of each issue was absolute trash. There were good things available, as Joe Ross proved, but these other editors didn't take the time to find it.

It has been my impression that for the most part neither did you. It didn't do much damage because it was only one story per issue, but few of these things deserved the resurrection. I also noticed a curious concentration on stories from the Palmer editorship, the magazine's all time low period, and have never been able to see your reasons for that.

Reprint magazines are indeed feasible if you try with them. The editor of *Famous Fantastic Mysteries* did her best to get the highest quality material she could, and didn't restrict herself to the Munsey magazines either, but went around reprinting from rare and out-of-print hardcover books. Of course the magazine was well received—it deserved it. Back issues of *FFM* are bringing rather high prices today because of it.

I see no reason why one or more of the reprint magazines Ultimate runs

couldn't be made into another *FFM*. All it would take would be a little time on someone's part and some editorial judgment. It wouldn't cost too much if you stuck to things with expired copyrights, and could contain reprints from back issues of your magazines and some others and old hardcover books. I have bought Ultimate reprint magazines before, when they seemed to be put together with some care. I have all the early *SCIENCE FICTION CLASSICS* and many of the earlier *GREAT SF*. But when they seemed to be quickly and carelessly thrown together (and the quality of the stories dropped) I gave them up. The last one I bought was *SF ADVENTURE CLASSICS* #12, and that was an isolated incident, as I hadn't touched any for a year or so before that. The reason was that this particular issue was quite unlike the others. It contained high quality material by well-known authors, some of the stories being nearly classics and of historical importance to the field, complete with interesting and informative introductions by Sam Moskowitz. The next issue of *SFAdVC* was the same crap that all the other recent reprints have been. I'd certainly buy another issue like #12. Have you ever thought of hiring Sam Moskowitz to be the editor of an all-reprint magazine of the *FFM*, *Fantastic Story Magazine* type? I'm sure he would do a good job and the magazine just might become quite profitable because of the low budget and the already established distribution of the Ultimate line. (As soon as I suggest something like this, I'm sure someone will come up and say "Well *Forgotten Fantasy* was a flop." *FF* was a new magazine and not part of a group, and more important some of its material, especially the first serial, was atrocious.) If the magazine becomes successful enough, you might start with something *FFM* and *FSM* did—publishing a few new short stories in with the

reprints. Certainly an added market for short SF, even a small one, wouldn't do any harm.

By the way, I am rather appalled by the statement of circulation in the back of this issue. It occurs to me that with 1,100 subscriptions you fall somewhat behind some of the bigger circulated fanzines of recent years, like *SFR* and *Erbdom*. And I still fail to see how twice as many copies are wasted as are sold. It has been my observation that the average newsstand gets 2 or 3 copies of any issue, and they do sell. After all, if there is one newsstand to a town with a population of, say, 8000, it shouldn't be too hard to find two or three readers. In my own case my town doesn't have a newsstand, so I drive approx. five miles to the next one, and thus leave only two copies for the entire population to read.

Michael Walsh in the lettercol might be interested in a remark made by the editor of *The Little Magazine* a couple issues back regarding the *Quark* anthologies. He plugged them, suggesting to his readers that if they like the kind of thing *TLM* publishes they'll like *Quark* too, and expressed some awe at the idea of a "mass market little magazine," which is what he considered the books to be. This might explain both the failure of *Quark* and the reason such magazines are found only in specialist book stores and college libraries. There are not enough interested readers to support one. Certainly not as many as there are for Science Fiction publications.

DARRELL SCHWEITZER
113 Deepdale Rd.
Strafford, Pa. 19087

You're right; I've never made any secret of my lack of interest in the reprints. The reason for going back to the Palmer era, however, had to do with the fact that the newer stories had largely been used up, and,

concurrently, we discovered that the original pulp pages when reduced to digest size were roughly equivalent in type-size to the small type we were then using. Your suggestions for revitalizing the reprint magazines are good ones, but their budget does not presently allow for their implementation. As for the "wasted" copies of this magazine, a great many more copies are printed than ultimately end up on sale. Some of those which aren't displayed are immediately returned by the retail dealer to his wholesaler (see Charles T. Smith's letter in last month's FANTASTIC, for amplification on this point); others are siphoned off somewhere along the line and bootlegged with their covers or title strips torn off; and quite a few are probably never sent out by the wholesalers who get them. By my reckoning, roughly two thirds of all the sf magazines (save Analog) printed go unsold; for the same reasons, roughly two-thirds of the sf books published by the smaller paperback houses also go unsold. What happens to them? Since no one has, or can afford, warehouse space for all these tons of books and magazines, the vast majority are pulped—recycled, if you will. This is indeed an awful waste, and the present economics of publishing are based upon the necessity to absorb this waste. If anyone can reform this process he will without a doubt earn the undying gratitude of the entire publishing industry.—TW

Dear Mr. White,

I've just rediscovered *AMAZING STORIES* and I know that I won't regret it. For some years there have only been four good, professional, and wholly original SF magazines on the market, (not to mention the too short-lived *Vision of Tomorrow* and *New Worlds*, which in my opinion wasn't an SF magazine any more) but now *AMAZING* and *FANTASTIC* are finally back and, boy, they're in!

The March AM. is lying beside me and

what first strikes the eye is your colour-printing. These colours are shining, as befits a good cover painting like this one. AMAZING is a handsome magazine. (I haven't yet seen the new FANTASTIC, but I can imagine a Jeff Jones painting printed in these colours—wow! I was a little bit disappointed, though, in the illustrations. Some of them are outright clumsy—not up to the otherwise professional standard of AM. Get George Barr for your magazines, or Tim Kirk, Dennis Smith, Eddie Jones (from the U.K.) or our German Helmut Pesch, if you can't afford Freas or Schoenherr.

By the way, there's another cover-artist, too, who I can recommend to you: David A. Hardy. His covers have appeared on *F&SF* and *Vision of Tomorrow*, but mostly he has illustrated books on astronomy like his own and Patrick Moore's "Challenge of the Stars." He is certainly as good as Bonestell and you'll like him!

The stories in the March AMAZING are all good, solid sf with "Sky Blue" shining out as a little gem, but then, perhaps, I'm not fair, I simply like Alexei Panshin. You cannot get enough of his stories for me.

I also look forward to Bob Shaw's slow-glass stories. At his best, Bob writes exactly the type of modern sf-story I like: fast-moving, gripping, well characterized, based on solid scientific knowledge—immensely readable stories which are true "SCIENCE Fiction."

Keep him writing for you!

There seem to be a lot of young authors now who are (like Bob Shaw) able to combine literary techniques or, better, an awareness of literary techniques, taught by the new-wave-movement, with the ideas (sometimes the idealism) and the scientific grounding of the old-style sf. I suppose that's the direction AMAZING is taking, too, and it's a good one!

Then there are your features. They will

be the first things I'll read in the future issues of your magazines. There are some (few) editors who are able to write features (and get them from others) which read like stories. Sam Mines was one, though he's almost forgotten now, Robert Lowndes is/was another, and you are! So, on the whole, you've won yourself another faithful supporter. I'll stay with AMAZING and FANTASTIC.

Before closing here are two suggestions:

1) How about publishing special issues of AM. (like *F & SF*), for example an old-timer issue? You could get new stories by long-time authors like Jack Williamson, Ed Hamilton, Frank B. Long, Will Jenkins and others for that one. I'm sure such special issues could win you more subscribers.

2) How about publishing some German sf-stories for a change? Of course, there are not many good sf-stories published here, because there is only a small market (no magazine!), but during the last years there have been a few really fine stories by people like Wolfgang Jeschke, Ernst Vlcek, Helmut Pesch, Herbert Franke and others. You shouldn't have to pay very much (I suppose, the authors would be content with one or two cents a word—they are used to getting a lot less here than in the USA), Wendy Ackerman could do the translations and Forry would get the stories for you. AMAZING would take up an old Gernsback tradition this way and get a more international image.

UWE LUSERKE
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7 Stuttgart 50
West Germany

Both your suggestions are good ones and worth consideration, but it's my impression that F&SF's "special" issues (those devoted primarily to a single major author) have never sold well, probably because most

readers want variety in their magazines. Still, we'll see what we can do.—TW

Dear Mr. White,

While the March AMAZING is supposed to have the first psychedelic cover, I would say that Mike Hinge's cover for this issue should rank as the first. Psychedelic involves more than just dayglow colors. While I can't say that Saturn yellow or Rocket Red are familiar and recognizable colors, the colors on the May cover are brighter than usual. On the other hand I can't say that I'd noticed any difference in the March or April covers, of their respective mags. The only thing about the March Bodé-Todd cover as the shade of blue that I associate with *Humpty-Dumpty Magazine*. The May S.F. AD. CLASS.'s cover was distinctly noticeable, because of the vast amount of yellow in the cover. By the way Mike's cover for the May AMAZING must be part of the "new Hinge" art that's ten years ahead of its time. It's beautiful.

One thing that I've always felt strongly about, but never wrote about, was the amount of short-stories offered each issue. I felt that since people would buy the mag either for the serial or the short-stories (or both) you should have a fair amount of short-fiction to attract people that didn't care for the current serial. Now with the reprints gone I can hope to see a better balanced contents. The April FANTASTIC held some promise, or at least a new policy of having about seven "stories" per issue. Unfortunately most of the stories were too short to be memorable. The May A. is much more what I had in mind. A couple novelets, several short-stories, and these long enough to offer a plot. Part of this good luck has to be attributed to the shortness of the serial. I think I'd desire to lose one feature in order to maintain such a variegated contents of short stories. (My choice

would be *The Clubhouse* because I'm not a fan.)

The stories this issue are quite good, averaging better than in March. The biggest disappointment was the serial, remarkably. Either Bob Shaw should have 1) let simmer the idea even longer, or 2) gradually written a book's worth of short stories like "Light of Other Days" and "Dome of Many-Colored Glass." The first part of the novel has the tediousness of stories from *Analog*.

As I've already explained, the Nadler and Carrington stories were minor disappointments. I am, though, highly impressed by Maggie Nadler's ability to write and would like to see her write something longer. (Clarion strikes again!) Tiptree's "The Man Who Walked Home" is a beautiful triumph of talent over cliché. The ideas of a time traveler in trouble, religious cults forming around strange events, and other bits and pieces of the story are hardly new, even in their relationships as used in the story, but Tiptree has put them together, in a story of an amorphous structure and has come off with a memorable story. If he would only write more often. Gordon Eklund's "Soft Change" must have hit one of my blind spots because it still remains incomprehensible to me. Jack Haldeman's "Watchdog" was the best story after Tiptree's (Guilford strikes again!). The ambiguity of who was going insane kept the story alive. I wonder if your printer had any trouble with "6"? It's not something you'd run across outside of computer centers. I almost forgot to read Ebert's "In Dying Venice" when I was reading AMAZING, and I've left him until last again. He writes a lot like early Ballard and has done a nice story.

Apparently you've gone to a new policy of full-page illos for your serials. Your first two haven't impressed me. Steve Harper's illo for FANTASTIC displays a

crudity that is unusual for him. Nor is Hinge's illo for AMAZING the best he's ever done. Perhaps these were rush jobs. Steve Harper seems to be becoming the mainstay of your art staff, like Mike Kulata used to be. Mike is apparently making it big in the comics; he's got his series, "Carson of Venus." You've developed quite a list of artists, Cockrum, Harper, Jeff Jones, Hinge and a new guy, Walt Simonson—I didn't like his first illo because the picture didn't quite resolve into anything recognizable. I like his Bodé style drawing, though.

I remember reading the Prescott review and desiring to retaliate too, but then realized that his depreciating remarks about "those who lust of respectability" would protect himself from any simple, "SF is great, yeah," sort of answer. Also, I don't really remember a time when a *Newsweek* review was mentioned in the letter column. Dave Book's column is fascinating. I like it best when he and Benford are not talking about "why the sky is blue" or "the Columbus Problem," but rather about "The Road To HAL" or the "Ultimate City" or "Scientists in S.F."

One of the first things I like to read in your mags are the letters—because they're short and fast to read. This month I find Jerry Lapidus remarkably absent. For a while I thought he was auditioning for a feature column considering all the letters he was writing. But John Robinson continues the tradition with a letter this month, and another by Dave Hulvey. Clearly you skirt the danger of making your mags too fannish. Between Lupoff, Carrington, Lapidus, Robinson and Hulvey and yourself, you could probably fill an issue without any trouble. You haven't gone that far, yet.

BRIAN EARL BROWN
Manchester College
N. Manchester, Ind.

OR SO YOU SAY

Well, "psychedelic" wasn't my word for the March cover, and, as it turns out, we didn't use dayglo inks on the May cover anyway—it seemed superfluous. The regular inks our printer is now using are very bright and quite vivid in natural light, even if they won't fluoresce under ultra-violet light.—TW

Dear Ted,

Before I even got past the features in the May AMAZING, I found plenty to write to you about. First, I like the new cover inks quite a hit, they're not quite "psychedelic" by my definition, but they're certainly bright enough to catch the casual eye from their position at the back of most dealers' display shelves. In fact, that brings me to my second topic of discussion, or perhaps dissension: your distribution hassles. For the last three years or so, I have worked for that "bunch of fuggheads called Imperial News Co.," as Moshe Feder calls one of the New York distributors; during all that time I kept an eye open for just such abuses as you have mentioned, along with about every other prozine editor, many times.

Well, the plain fact is that I can not, and could not at any time, accuse the people at Imperial of either dishonesty or negligence. Understand, I am not exonerating either that company in particular or distributors in general; but, at least as far as I know, any difficulties your mags have in the New York area can most likely be traced to the individual dealers themselves, who would, after all, rather sell "class" books and the higher priced porno and sex-ploitation mags. In fact, since sf and fantasy mags are digest size, they are almost universally relegated to the back shelves, simply because the dealer wants to display in a limited area a large number of publications, and puts the biggest sellers up front, not to mention those mags I mentioned up above, which

bring in, as far as I can figure, a slightly higher profit per copy than your cheaper books. I mean less-expensively priced publications, of course. As a matter of fact, I am on the staff of a so-called "little" magazine, and you should see our distribution headaches. If anyone in the New York area does have trouble finding your mags on the stands, I can suggest, as I believe you have, that they first search through their dealer's shelves with a microscope, pushing aside copies of other magazines; three or four times in the past I have located sf mags shoved behind several copies of *Sexology* or some other digest size publication. If that doesn't work, it's entirely possible that the dealer in question simply returns to his distributor the sf mags which he receives each week, without even putting them up on his shelves; in that case, a few words discreetly whispered in said dealer's ear could induce him to hold out a few copies of your favorite mags.

Actually, I think that the question of distribution is connected with the subject of your editorial, i.e., the arbiters of public "taste" and their stand on sf. After all, if one has the impression that only a small minority of nuts and pimply kids read sf, then it follows that it is not in one's best interest to promote the sale of sf mags at the expense of mags which may have a wider audience. In fact, I read the *Newsweek* review in question, and completely agree with your analysis of the text itself, the author, and the folks upstairs who nurture the opinions Prescott proudly exhibited, but it doesn't look to me as if people in the *genre*, when given the chance to dispel some of the illusions surrounding sf, do much to dispel said cloud of unknowing. For example, take the recent columns by Sturgeon in the *Times* Book Review; what I think should be a column of intelligent criticism appears to be well on the way to becoming

a sister to the *Times'* mystery novel column: an insider's report on recent publications in the *genre*. In place of any real attempt to communicate to the *Times'* readers something of what we get from reading sf, there was an introductory column which reiterated all the rhetoric I've ever heard about how good science fiction or speculative fiction or whatever really is, and so on. With all due respects to Mr. Sturgeon, this simply won't do at all; he ought to know himself, and it suddenly strikes me that maybe the *Times* won't let him write the kind of column which would attract outsiders to the field. On the other hand, as your editorial suggested, it may not be all that desirable to attract flocks of "outsiders" to sf; we "insiders" ought to realize that, after all, all fiction actually belongs to one *genre* or another, be it the romance, the adventure, the mystery, the western, or whatever. As I believe Damon Knight has pointed out, so-called literature is actually simple *genre* literature which has transcended its own boundaries, e.g. *1984*, *The Brothers Karamazov* (a murder mystery), or Joseph Conrad's stories of the sea.

If, on the face of it, fantasy and science fiction have contributed fewer novels to "literature" (forgive my hangup about quotation marks, I realize they're liberally scattered all over this letter), we ought to consider that fantasy and science fiction have only existed, as distinct *genres*, for a very short time, despite claims to see early sf in the story of Daedalus *et cetera*. Off hand, I can't really think of a large number of classic works which derived from the western, or even from the now quasi-respected mystery story; there really aren't that many great books written within a century, much less within one year. This is not to say that there are few, if any, sf stories worthy of a wider audience; there are a good number to

be sure. There are also a good number of Arthurian romances, Japanese haiku, and Russian novels worthy of a wider audience, but since only a small audience is interested enough in each *genre* to invest the necessary effort which makes the form accessible and enhances the limits by which we define quality within each *genre*, only the very best works within a given field will reach a large audience. Alternately, those works which best represent the larger audience's idea of the *genre* will sell the best to that audience; this is precisely the case with science fiction, as well as most poetry and, I am assured by those who know, Russian novels. Ergo, *Rosemary's Baby* is a best-seller instead of *Conjure Wife* or *The Blue Star*. In the case of sf, this problem is complicated by the decline in respectability of the short story as an art form; now that the short story is considered by the arbiters of taste to be a lesser form, fields such as sf, which has been till recently and perhaps still is dominated by the short story form, consequently find that a large body of their literature has automatically been excluded from the material which may even be considered critically. Let me put that more simply: since most sf has been written in the shorter forms, and since those forms are currently considered "dead" or nearly so, then it follows that a large percentage of good sf will not be considered by critics (and "discriminating" readers) simply because of the length of the stories.

On the other hand, I must say that the sf readership has never been very open to attempts by people more or less outside the field to open up the literature: witness the flap not so long ago against *Giles Goat-Boy*, or better, the novels of William Burroughs. As I recall, a godawful lot of people simply could not accept these novels as sf, apparently because of the stylistic eccentricities of Messrs. Barth and

Burroughs. Consider the hubbub over New Wave sf; it is paradoxical that a literature which allows for the widest possible latitude in subject matter resists so strongly stylistic experiments. Well, it's paradoxical to me. Even less extreme deviations from the stylistic norm will be faulted as "bad" sf, although just possibly such books may be fair treatments of sf themes by outsiders, e.g., *The Andromeda Strain*, which was clearly a diluted version of an insider's treatment of the same material, or at least so I have heard it said. Why is this book "bad" sf? It's too real, too close to what we can expect to be reading about in the papers soon. Of course, from time to time sf has been right on the heels of secret discoveries, as Lester Del Rey was back in the forties, but it's somehow okay for an insider to range as near and as far as he wishes in the plains of the probable.

To return for a moment to questions of style, although I obviously haven't come to any conclusion in what I have so far said, the resistance to stylistic innovation seems to me to be a broader application of the debate over profanity and its worth and place in an sf story. As a student of the language, and a hopeful poet, I take issue not with the emotional and biased polemics of narrow-minded readers, but rather with the reasoned criticism of Mr. Backrak. In the first place, not only is it shorter to say "No fucking fun" than "No love making fun," it's also more forceful and more colorful. It is, in short, more fun. While there would be certain advantages to eliminating all synonyms from the English language, there would also be a number of disadvantages, aside from the elimination of certain kinds of linguistic fun and games. Just for instance, English as a language has a very rich vocabulary and a very rich literature; without large numbers of synonyms, for example, most

English poetry would not exist, from Chaucer to Eliot, because it is precisely the author's latitude of choice which allows him to choose words which will rhyme. Eliminate synonyms, or abbreviations, and you also eliminate shades of meaning, degrees of forcefulness, and realistic dialogue (The everyday vocabulary of an astrophysicist differs considerably from the everyday vocabulary of an elevator operator, although not so considerably as to block communication.). In the particular case of profanity, your readers who feel it is cheap and vulgar and so on ought to re-read Shakespeare, Chaucer (who incorporated dirty jokes into the body of the "first great work of the English language"), Dante, and even the Bible, although I don't think they'll find much profanity in the English translations of that last one . . . but in the original!

I think that's about enough for now, and I respectfully return to the silence which has marked my first decade as a reader of fantasy and science fiction. I'll probably be quiet for another ten years at least.

NICHOLAS MELE
91-18 70 Avenue
Forest Hills, N.Y.

Perhaps the fact that sf does allow for the widest possible latitude in subject matter is a factor in many sf readers' resistance to stylistic experimentation. For the most part, mainstream experiments in style are wedded to extremely pedestrian story-situations. When writing about the here-and-now one can use extravagant metaphors with a minimum of confusion; when writing about an alien environment the possibility of confusing language is much more serious—the reader may not know whether to take the author literally or not. It seems to me also that sf could develop richer styles of narration without neces-

sarily turning in the direction of the sort of stylistic experimentation which caused so much controversy in the 60's; Roger Zelazny's earlier novels pointed in this direction and I for one am disappointed that he has apparently abandoned its pursuit.—TW

Dear Mr. White:

This was going to be a short letter of congratulations on the fine job your 'zine did for the May issue. It was going to compliment you on your fine, and anger provoking editorial, for the great stories, (all of which I liked to some extent), on my favorable introduction to *The Clubhouse*, and the fine David Book column, which was very amusing. But when I got to *Or So You Say*, and your smug answer to the Hulvey letter, I flung the issue across the room, yelling "Crap!" loudly, and disturbing no one, because I was alone at the time. How someone can generalize to the point of saying: "... I'd wager they're the Middle Americans who count all the dirty words in a 127-page novel." This is so much Bullshit! I assume that Mr. Hulvey was referring to middle Americans politically; as economically, swearing is not a prerequisite for being poor (or rich either, for that matter). And in George Brown's letter in the January issue, he didn't once mention any political belief (except for a vague 'decent people' reference). So how does Hulvey get off with this 'middle American' garbage?! And your reply to John Kusske's excellent letter, where you denied the propaganda charge with a "... see other reply." Well, I read your reply to Hulvey several times, and I still can't believe the super-biased views included. Police running amok, killing innocent bystanders. I'll buy that as an isolated instance. But as a generalization?!

This is like saying: "All Democrats are communists" or "All Republicans are

Fascists" (which Hulvey implies as an added treat to his verbosity). It is political propaganda like this that will possibly pollute the minds of our youth, not the 'profanity' that everyone is worried about. And notice that I said 'youth' instead of 'pimply-teenagers,' another incorrect generalization that Mr. Hulvey falls prey to. But if Hulvey can generalize, I can too, and Honest to God, his "... Pawns of the ruling class shooting down students in cold blood" remark bears a definite resemblance to something Mao would say. I am a student, and I believe (as I hope you do) that everyone in America has the right to dissent peacefully. And I am not convinced, not by a long shot, that the 4 martyred students, (to whom Harlan Ellison dedicated a book) are blameless. If you, Mr. White or you, Mr. Hulvey, believe that seriously that the National Guard are 'pawns of the ruling class,' then vote the 'ruling class' out of office. Or run yourselves. But please don't clog up your fine 'zine with partisan politics. If this gets published, I expect that you will deftly chop it to pieces, but I sincerely believe everything that I have written.

KENNEDY GAMMAGE JR.
(soon to graduate from
Muirlands Junior High School)
7865 e. Roseland Drive
La Jolla, Ca. 92037

Let's get one thing straight: the story in question deals with a specific "Police uprising" in one specific city—it is not intended to imply a general, nationwide war between the police and the citizenry. If one looks at the background involved (which, from your address, I doubt you are qualified to pass judgment upon), the possibilities are not at all remote. Item: The Knapp Commission hearings have established that corruption on the New York City police force is the rule—not the ex-

ception. Item: Most New York City policemen traditionally come from blue-collar working-class backgrounds and are white. They deeply resent the social changes which have swept the country over the last decade and are strongly prejudiced against non-whites. Item: When their brothers-under-the-skin, the so-called "hard hats," led a rampage in lower Manhattan against students and long-haired youths the police stood idly by and refused to protect the rights of these citizens, whose only crime had been their legitimate presence on the city streets during lunch hour. (A personal aside: I lived in Brooklyn's Bay Ridge at that time—a solid working-class neighborhood which votes the solid Republican-Conservative ticket. After the riot a longshoreman who had participated told the habitiques of my local candy store that he was only sorry they hadn't taken out and shot "that Red bastard," Mayor Lindsay. Lindsay, you may recall, severely reprimanded the police for their role.) Item: On every occasion when the police (especially the Tactical Squad) has confronted a demonstration made up of non-whites or students, no matter how peaceful or law-abiding, the police have created a scene of violence and bloodshed. (In 1961 I covered the so-called "Washington Square Folksingers Riot" for a national magazine; this "riot" consisted of a quiet march around Washington Square by folksingers denied their traditional rights to perform in the square by an up-tight Parks Department. The police arrived and turned the march into a head-bashing melee; the photos accompanying my article—showing cops grinning as they brought their nightsticks down on the heads of young girls and old men—still haunts me.) The conclusion is inescapable: The police—the men in uniform, not the officials—bitterly resent minority groups, long-haired kids and anyone whose politics runs to the left of Wallace. Time and time again when the

police have for any reason confronted these people they have lost all professionalism and control and have ceased to uphold the law in favor of breaking it. The best-known example, of course, is Chicago 1968—where the police simply rioted, attacking with no discrimination at all anyone luckless enough to be on the streets. The victims included the press, doctors, elderly people and even, for heaven's sake, Hugh Hefner. My story (written, as mentioned, in 1969) presumed that this situation would escalate, with the police responding to bad press and criticism with ever-increasing hostility until it finally flared into open warfare. That this could indeed happen was openly speculated about at the time—and it has certainly happened in other countries. Who will say "It can't happen here?"

The question of the national guardsmen at Kent State is a separate one and has been exhaustively researched and reported upon by, among others, James Michener. I commend his book to you. You need to read it if you really think that a student on his way to class who is shot down by a bullet in the back is "not blameless."—TW

Dear Sir:

Yesterday, in the echoing gloom of the Northwestern railroad station in Chicago, I found myself with an extra hour. Having been a long-time science-fiction reader and member of the S.F. Book Club, I walked over to that section of the newsstand first. Most of my reading, and purchases, is in the form of books, and much of that is hardback, but this time I decided on a magazine mostly because I hadn't read one for so long. And then I was faced with the difficulty of choosing one from the six on display.

I am not blindly loyal to any single magazine; I simply buy that one which seems to be most appealing. The reason for this letter is, of course, that I purchased the May, 1972 issue of AMAZING.

As a free-lance artist and photographer, I was immediately attracted by the cover art of Michael Hinge. There are few things so boring as a steady diet of alien twilight landscapes. Day-Glo inks would certainly make it stand out even more, but the additional expense may not be justified in producing what could become rather garish. At any rate, the cover stands well enough on its own, and any visually literate person should succumb to its appeal.

Secondly, as a motion picture freak and former film critic for my college newspaper, I know the name of Roger Ebert means creative ideas and skillful writing. Although I have sworn off film reviewing forever, (or at least until someone asks me to do another one) Mr. Ebert remains my favorite practitioner of that parasitic art.

That's all I have to say. It's not a very elevated approach to the psychology of magazine buying, but you asked for it.

BRYAN DAHLBERG
709 Michigan; Apt. 8a
Wheaton, Ill. 60187

P.S. I read the issue from cover to cover, and enjoyed every word.

Dear Ted:

Saturn Yellow and Rocket Red inks! Wha . . . ? I too wondered about the strange glow on the Todd-Bodé cover, but I thought it merely the sinful wages of some evil and perverse drug. Mrs. Grossnickel has been leading me along the path to pathology with Green Mint Tea. Yazz, and after one especially torrid afternoon of sharing Emily Dickinson and a new recording of the Gospel Country Jubilee of Nashville, Tennessee I was fain to gaze raptly upon the unadorned cover of your prozine. Verily, I saith unto thee that I was seized by Strange Desires. Like the fowl of the field, the bees in the trees,

and the birds down by the sea I did no toil that day. I worried not about the affairs of This Earth. Soon, I was embellished with a transcendental rapture, propelled through endless space-times and looked upon the face of Madam Sinicure—and lived.

Now, I know Bob Tucker spoke from the Book of Truth (Chap. 6, Verse 12, Lines 6-10) when he dared Plunge All Fandom Into War over (1) the fringe with the trim, (2) covers with red and yellow skies, and (3) a magazine to be bound without staples. Indeed, he has pressed relentlessly forward on all fronts until no modern day prozine suffers these afflictions. Yet you seek to return the curse of the Red and Yellow, only now cleverly endowed to glow and thus lead many loyal and clean-thinking youths down the road to immorality and dissolution. This is awful! I call upon the assembled minions of sf fandom to don their Red-ball Express P. F. Flyers, unzip their Bibles and run like hell to spread the alarm. I implore the decent, self-respecting, Ghod-fearing element within fandom to hear my plea. Yazz, fellow fandomites, if you feel as do I about hamburgers without ketchup, change back from your onion stew and mom's topless American apple pie, then join me today. Walk where I walk. Talk when I talk. Fight who I fight. Together we shall make fandom safe for neofans. Like one mighty load the weighty mass of our concerned opinion will reverse the flow. Do it today!

I was croggled to learn that no President has ever admitted to reading sf. I wonder if any of the present hopefuls, now campaigning somewhere in the vast heartland of the opinion polls, furtively conceal a secret yen for sf? If so, I suppose the Hump likes his noncommittal and vague. Perry Chapdelaine's "Spork of Ayor" would appeal to his constantly changing, but ever optimistic, grandiose

schemes for or against, depending on the issue, and the state. Lindsay probably would settle for nothing less than the elegant slumming and sop for the properly liberal conscience found in the more rhetorical works of Ellison and, of course, *Bug Jack Barron*. He wouldn't be satisfied, though, unless he could launch a huge media campaign propagandizing for a sf National Library Week. The more it cost, the better. Jackson would tolerate it only if a major sf bookbinding corporation could be induced to move into Seattle to hire the workers laid off by Boeing . . . He'd endorse *Analog* as the breakfast read by the astronauts. We could expect the next national convention to feature a Miss Interstellar Tang, should he be elected. Muskie would give short shift to this chicanery. Forthrightly, he'd pursue a top level goal to unilaterally withdraw all sf from newsstands immediately, instead of following the piece-meal Nixon program of Paperbackization. The Senator from Maine could also be expected to break down in tears outside of the home of Sol Cohen after delivering an impromptu prerecorded harangue against sf ghetto demagogues who break down in tears during speeches in public. He'd urge Polish Catholics to boycott our literature because of its racial stereotypes and irreligious bent (or so he could say). Of course, Muskie is only a Jr. League batboy at this game when we think of the owner of the team, George Wallace. The 'Bama boy would cut loose with a big one when he discovers welfare mothers are wasting their meager allowances on used prozines in second-hand bargain shops. With the aid of Wertham, he'd launch a God and Country wide program to restore juvenile decency, with the elimination of sf high on his list. The Jesus Freaks in fandom would go among the masses to recruit elite squadrons of bookburners. In order to move the con-

demned books to a properly hidden incinerator, Wallace would institute a frantic policy of massive bussing to achieve the best levels of particulate emissions. The menial labor for this great enterprise (along with his graffiti-scrubbing and street-cleaning, not to mention apple picking and running and jumping contests in which the winner would receive a big, juicy slice of ripe tender watermelon) would be supplied by that race of men, variously known and hated as Pseudos, Smart Asses, Pinko College Professors and their fellow "ludicrous and asinine" perverts.

Of course, there are the ghod guys also. In fact, Jan Evers has commented on what a nice mimeo the McGovern people have. Obviously there is a proto-fannish spirit there. And I have it on the word of Harry Warner that SF is more highly read by blacks to take their minds off the stigma of blackness, and the milieu of poverty associated with that (unfairly). So, Chisholm would endorse SF as a better substitute for other escapes from ghetto realism, like heroin or alcohol. Even Ashbrooke, for all his conservatism, has fans working on his campaign. So, instead of going collating on election day, I might even slip-sheet my way down to the local polling place for the free entertainment of watching people exercise their constitutional right to self-delusion.

I was very heartened to see *The Clubhouse* back. Berry, whether he can bear the horrible consequences or not, was one of the primary impetuses for getting me into fandom in the first place. Had I not read the col when I knew nothing of fandom—taking a chance on it under my Set Policy of reading Everything in the prozines—I would not be destroying a typewriter in its youth, prostituting a mimeo recently liberated from suburban domesticity, adding to the post awful's load of obscene mail, congregating with

other ectomorphs and endomorphs at cons and, above all, having a fine time with those other lost souls who have accepted their intellectual depravity in all its glory. Candidly, the results of my association with this great creative disorganization have made me more aware that the world is a vast place full of various kinds of interesting and odd people. In Harrisonburg, the closest I ever came to the delight I derive in fandom was among an embryonic cell of counter cultural freaks. However, they were too caught up in revolutionary politics (for some), drugs (for others) and hedonism untempered by the slightest restraint. There were so few that after awhile they'd done all the trips I was interested in, and went on to more dangerous tomfoolery which I saw was clearly idiotic. The group is dissolved now. A few are still after political power, in or outside the Establishment. Some left the country in search of the new high which the grapes in the grapevine said awaited them in Italy, or was it Turkey? Afghanistan? A couple are even tokin' Jesus nowadays, a manifestation which turns my stomach. And I'm in fandom. Hmmmm, it's hard to decide who's the most degenerate nowadays . . .

Potlatch is indeed a fine faanish fanzine. I'd suggest it to anyone interested in taking the plunge into fandom. John Berry is right, though, that many faneds are slow to answer requests for zines. When I first dashed off missives to editors I waited for weeks and weeks. It was very discouraging, at first. Later, after I had a choice coterie of favored people whose zines I enjoyed, it was not so important that the editor of *Poo!* or *Fantafoofaboo* or whatever responded immediately to my hastily scrawled entreaties. In fact, people I'd never heard of started sending me zines, unrequested. A few were very good, some passable, but the majority reeked. Obviously, the editors of *Poo!* and *Fan-*

tafoofaboo couldn't wait for a civilized invitation from a potential reader, so anxious were they to add to the already bloated fanzine ecology. But why should they? I soon discovered that a lot of these fanned were fans with as little experience in the microcosm as I. That disconcerted me momentarily. I thought the office of fanned took the course of some secret ritual ceremony in which the Chosen Few were vested with the solemn duty of spreading the Word to all who would learn to read. Not so. In fact, from an impression I got of some of the zines, the editors themselves still had to learn to read.

Outworlds isn't all that fine, from my viewpoint (but mine is a minority report, and I'm not that unaffected by the zine after all.) Bowers succeeds with his graphics trip better than Jay Zaremba does with the *Essence*. Lately, Zaremba has taken to drawing neat lines all through his zine, without the traditional fare usually considered as art, the illo. This is taking the art consciousness to an insane extreme. If people want to stand on their heads, talk to their toes or learn their Tarot cards, I don't object. However, if they want to make their fanzine the primary playground for such marvelous tricks, I'd prefer not to have to pay the piper. I guess it's the old comics nut in me revolting against Pretentious Artiness. Oh, I like Baroque illos occasionally, but not if they dominate the verbal communication with which fanzines thrive. Fanzines like *SFC* and *Speculation* have little or no art, but they are among the best zines currently produced. So are the Brooklyn family of zines (and they don't depend on fancy arty schticks either.) I know it's heresy, but I'd like to see an ish, of say, *Energumen* with no art whatsoever. I personally think such a zine could make it almost as well with no art, as with too much art, interspersed with cols on the Significance of it All.

Kusske's letter denies the social reality in which we live. I've personally seen police abrogate the civil liberties to individual citizens time and again. It doesn't have to be a riot, or even the slightest hint of overt aggression. The police intimidate people with their presence. I was in the black section of Philly and Baltimore for several weeks over the past few months, and was clogged at the amount of obvious police harassment that took place. For no good reason, police would cruise by some selected victim, stop, and frighten that person with ridiculous riffs concerning "proper identification" and savor every opportunity to assume control over another's life—if only for a short time. I listened with horror as a top ranking police Sgt. told, in his own words, that the blacks *like* and admire him and his men for their toughness. He openly admitted that if the people are right, and the weather is right, that there would be blood on the station house floor. He said it was a necessary evil, and something unavoidable, due to the violent nature of "their women." He stressed the fact his men had to knock more women on their asses because they, paradoxically, are more violent when placed under arrest. Finally, he told that Baltimore had purchased six tanks under the LEAA (Law Enforcement Assistance Act) and would be ready during the next riot. There was no "if" about it. He pleasantly expected an opportunity to kill as many of "them" as he could with the six new toys. Unfortunately, tanks are curiously unsuited for street fighting, since they are much more vulnerable to molotov cocktails thrown from buildings than any hazard in open country.

The climate of fear is even worse in parts of Philly. The night is split with the sound of sirens and speeding police vehicles. I was more afraid of the police in Philly, than any criminals. More than

once the burly men in blue meaningfully tapped their nightsticks in my presence. There was a certain ugly meanness about them, a air of arrogant stupidity. One night, near where I was staying, a van pulled up on a nearby corner, the police who piled out looked armed to the hilt. They proceeded to beat doors down, below until sleeping residents were rudely awakened. It seemed the police were itching to make a marijuana bust. Rizzo, in his perverted wisdom, was going after the evial weed and graffetti scrawlers. I heard him with his own mouth at the Philly New Year's Parade say that he was going to up the penalty for making those rude scrawls in the subways. Oh, an issue of such burning import. No doubt. I'm not anxious to go to any more Philcons, not with Rizzo's storm troopers out and about with time on their hands.

Of the stories in this issue, Tiptree's was the best. Though little known, even for his great talent, he fashions an unique story each time. The curious fate of the man trapped in time was chillingly effective in evocating a feeling of bemused disbelief within me. I didn't want to believe, but I had to anyway. His technique of moving from time to time and scene to scene was very useful in heightening the suspense.

Eklund's "Soft Change" sounded like a vaguely pessimistic theological speculation. Krystan sounded uncomfortably like Christian. "There is a scheme to things" and this story is not different in that truism. That is begins and ends with the same sentence, thus sounding a basic Christian theme as they might chant "as it was then, is now, and ever shall be, world without end. Amen." The story comes the full religious circle from one infinite beginning to one infinite ending. Not so logical, but then is religion ever logical except unto its own body of self-consistent conceptualizations? As pomp-

ous as that sounds, I can think of no better way to describe the overblown world-view foisted upon us by the snake oil salesmen of modern evangelical thought. Mavique has been trapped in a sterile Mormon-like future where the people are happily doped up on the pastoral peace of an oddly urbanized world. Like the forever exemplified to death prodigal she leaves only to return defeated but renewed in her faith. How droll. The only time she really left the illusions and delusions of her social setting behind, in a mental sense, was when she began to see the essence of God as a unity, with good and evil being part of the same totality. Unlike Christian dogma, which separates good and evil into two warring camps, she came to the enlightened Hinduistic vision of a cosmic entity. But the vision faded, and the leap she made to this new understanding was fleetingly ephemeral. Sad.

"In Dying Venice" was powerful. I could tell Ebert took thoughtful care with this work. "Flack" is a useful bit of slang. It functions, unlike many bits of future slang thrown in stories as pretty pieces of fluff with no real connection to the story eventually presented. His extrapolation is too likely. This Couple of the Year schlock is already an unofficial part of the pimply teenage fan mag market. In his "bottle baby" future its institutional character sounds all too plausible. I had to read the part at the beginning of page 75 twice to enjoy the full irony of the bit. Ah, male chauvinism—as a women's liberationist might say—triumphs, and finds in that triumph a truly empty victory. To be able to mold woman into Mrs. Sex Goddess at a whim. Such power. Such control. But the only intelligent male character left finds no glory in it. Even more striking, in my mind, is my own realization that I'd probably find the same cheap thrill amusing if I lived in such a society. Even now, in fact, I find

it rather amusing to scan the "women's page" of the local reactionary newspaper in order to view the failure of all the King's horses and all the King's cosmetic salesmen unable to put lasting beauty of a more than physical sort into the beaming faces of brides-that-were.

Jay Haldeman's work, although polished and in top form, betrays a little stiffness in the rhythm of the words. This is probably a testament to his newness to the craft. Nonetheless, he handles a tired old idea well. The plot feinted in and out enough to keep me guessing until late in the story, so there was no telegraphed ending to spoil the flashes of poetry. The variation on "it is all a game" is effective repetition.

Maggie Nadler returns with yet another liberal shibboleth. Let's hear it for the ACLU. The device she used to illustrate the invasion of privacy was simplistic, to say the least. I couldn't even finish this short short. It was that obvious. Even the salesman's last thought was all too predictable. I mean, whatta ya expect from a schlockmeister (albeit for the thoroughly cultured upper class) like that. Sheesh.

Finally, Grant Carrington does his bit. It wasn't all that good. I felt no rapport with the protagonist. What if he is the last man on earth? Am I supposed to shine up my sensawonda and feel, maybe Remorse. Not if the character is as dull as this one. He can stay on the corpse of the ol' terra firma if he wants. If he's that frightened of what's Out There it

matters little. With all this aversion for the Beyond I'd have expected a little more hokey xenophobia, but luckily Carrington is above at least that gaucherie.

Say, a great old W. C. Fields is coming on the television in a few minutes, and I don't want to miss it. Fields as the Great McGonigle in "The Old Fashioned Way" (is that right?) certainly does something for mah ol' Sensadownda. Deed and double, it does. So, I'll save the two pages of notes I have left on this ish for another time. Maybe. Or maybe not.

DAVE HULVEY
Rt. 1, Box 198
Harrisonburg, Va. 22801

After the tour-de-force of your opening pages, perhaps that's just as well . . . or have you considered that the sheer volume of your verbiage may be obscuring the very points you want to make?—tw

That wraps it up for another issue. Regrettably, *The Science in Science Fiction* is absent again this issue. David Book tells me that closing on the purchase of a new house and expecting one's wife to have her first baby any day now shoots deadlines down in flames. Perhaps Greg Benford's "Jupiter Project" will make up for the loss; the science is up to date and the extrapolation is thought-provoking.

I might also mention that although John Berry's *Clubhouse* this issue is his last, the column will continue—with a few surprises! You'll find out what I mean, next issue. Look for it.—*Ted White*

(Continued from page 65)

"That's right, Big. First, though, we have to get Thin."

At the Table, they symbolically, if

(Continued from page 89)

solid, Gerard was telling him. You can drive a wedge into it, displace it.

gloomily. Toasted each other, as of old, with Goblets of Non-Fat Milk.

—ROSS ROCKLYNNE

Yes, Jackson thought. But have you ever tried to pull one out again?

—F. M. BUSBY

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